Yahoo Group Archive: TS-520_820_530_830 (2014)

Yahoo Group summary: KENWOOD TS-520_820_530_830

These Yahoo Groups messages were archived in WARC format by ArchiveTeam in 2017. This PDF was generated by Digital Library of Amateur Radio & Communications from the WARC files in 2026.

Date span: 2014-01-01 through 2014-12-31

Source WARC: ts-520_820_530_830.d0kBnMS.warc.gz

Source item: https://archive.org/details/yahoo-groups-2017-04-17T04-04-28Z-8e1d1d

Messages included in this PDF: 3943

Yahoo replaced the domain portions of email addresses with @... in the archived messages. Characters lost in Yahoo's archived text appear as ?.

Messages are presented in ascending Yahoo message-ID order. Gaps indicate records absent from the source WARC or messages omitted from this PDF as spam.

46762. RE: [TS-520_820_530_830] a real puzzler / low drive on lower portions of bands

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-01 03:01:58 UTC
From: Craig Roberts
Topic: 46619 Message: 46762

Hi Dave,

The load control is in its normal position(s). The most dramatic demonstration of the anomaly is on 40 meters. At about 7.100 MHz, for instance, in Tune/Send position, rotating the Drive control from full CCW results in no ALC indication until about 12 o'clock when the meter suddenly jumps up to normal readings. In other words, there is no gradual increase in ALC readings. As I mentioned, I have very little drive on the first 50 - 100 KHz of each band on 160, 80 and 40. Everything's normal on the upper bands.

Many thanks and 73,

Craig
W3CRR

fpath fpath <fpath@hotmail.com> wrote:
Craig, Is the load control in or about the normal position or are you finding it hard CCW or CW? 73's Dave VK5PDL To: TS-520_820_530_830@yahoogroups.com From: crgrbrts@verizon.net Date: Tue, 31 Dec 2013 06:10:51 +0000 Subject: [TS-520_820_530_830] a real puzzler / low drive on lower portions of bands Well, we're almost there. ...same TS-830S with the reception problem (now solved with Molex connector pin repair on the AF board). We now have low drive - or no drive -- on the lower portions of the lower bands, i.e., 160, 80 and 40. In other words, using 80 as an example, drive and output are normal at 3.975 MHz but negligible at 3.525 unless I crank the carrier control wide open. Even then, the maximum output is no more than 50 watts. The situation is the same on 160 and 40 meters; everything's fine at the upper ends of the bands but unwell at the lower ends. This anomaly became apparent after the RF board was pulled and replaced for the sake of replacing a 10 meter RF coil. The drive control seems to be at fault here, but I can find no misalignment of capacitor plates or other obvious unpleasantness. Whaddya think? Thanks, Craig W3CRR

46763. Re: [TS-520_820_530_830] Low power output in tune mode TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-01 00:10:47 UTC
From: <dfm4290@...>
Topic: 46745 Message: 46763

How long will I need to let the radio set so the capacitors have fully discharged?
Thanks
Dale (KD0GES)

46764. Re: [TS-520_820_530_830] Low power output in tune mode TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-01 04:16:22 UTC
From: Joseph Stiles
Topic: 46745 Message: 46764

Dale,

Which capacitors are your talking about..the HV caps? If so, usually less than 10 minutes...but
NEVER...I say again... NEVER mess around with these...use your volt meter to check to make sure! Kind of a drag to spend the first days of the new year either in the hospital or worse... SK

73 Joe
WB7UQU

On Tuesday, December 31, 2013 8:11 PM, "dfm4290@..." <dfm4290@...> wrote:

>How long will I need to let the radio set so the capacitors have fully discharged?
>Thanks
>Dale (KD0GES)
>
>
>

46765. RE: The TS-820 restore ...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-01 00:28:38 UTC
From: <famtech@...>
Topic: 46669 Message: 46765

I know what the screen grid switch does. I burnished the contacts on both relays. In receive, gain is at one level. Toggling transmit and back to receive, receive gain drops down. Switching the rig off and back on recovers gain to where it was. What band is in use doesn't matter.

Jim L.

46766. RE: The TS-820 restore ...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-01 13:36:22 UTC
From: <wagstw46@...>
Topic: 46669 Message: 46766

Suggest you buy an NOS replacement Aux relay from Kens Electronics or Ken K4EAA or Jim HybridRestore while still available. Cleaning usually isnt too long lived especially if have burnished the contacts.

You have two key dc voltages required by the gain controlled RF and IF dual gate mosfets.....AGC and RB (via RLR). These are both switched in RX/TX by the Aux relay contacts. RB is approx -3vdc in TX and +2.0vdc in RX.

Wont take very much drop across relay contacts to affect the gain of RF and IF amps. Would need analog voltmeter to monitor Gate 1 and Gate 2 voltages at transition. Not sure could see it. Would have to look at RB and AGC.

Try swapping the TR and Aux relays as first step. Then monitor RB on RF board.

Terry K9TW

46767. RE: [TS-520_820_530_830] a real puzzler / low drive on lower portions of bands

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-01 13:51:12 UTC
From: <wagstw46@...>
Topic: 46619 Message: 46767

Have you looked at VC-1, VC-2, VC-3 drive chains to make sure aligned correctly and no dead band. Especially important for Mixer and Drive to be in sync and no lead or lag. Drive control and ALC peak will be touchy if they are not in sync.

At 1200 all three cap plates should be close to 50% meshed.

On 40 meters at 300 should see ALC peak around 2:00 oclock on Drive control and at 50 should see ALC peak around 10:00 oclock.

Watch the plates of VC-2 and VC-3 and make sure when you rotate the Drive control that they start to move together at same time and same % mesh. VC-1 should do likewise but for TX just focus on the middle and back caps.

Terry K9TW

46768. Output dropping above 28,2 Mhz

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-01 16:37:16 UTC
From: <sm7fyw@...>
Topic: 46768 Message: 46768

Hello All
First a Happy New Year to you all, and may the Hybrids long live!

with the risk being a pain, I wonder if anybody have seen this happen, have put correct x-tal back in an TS 520SE (28,0 - 28,5 part) but now it drop output over 28,2 Mhz.
Have put new slug in 28mhz coil, since the old one was cracked, receive works great, but transmit just drops.....have new good tubes, incl driver....

Maybe I should add that somebody had tried a cb conversion on this rig...

Have I missed something simple or, whats up??

Hope to get this rig out of here, so my friend KA3USM can have the rig back.

Thanks
Lars

46769. Re: [TS-520_820_530_830] Low power output in tune mode TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-01 17:02:46 UTC
From: Gordon JC Pearce
Topic: 46745 Message: 46769

On Tue, Dec 31, 2013 at 08:16:22PM -0800, Joseph Stiles wrote:
> Dale,
>
> ? Which capacitors are your talking about..the HV caps? If so, usually less than 10 minutes...but
> NEVER...I say again... NEVER mess around with these...use your volt meter to check to make sure! Kind of a drag to spend the first days of the new year either in the hospital or worse... SK

Oh yeah, you know how I said high value resistors subjected to high voltage for a long time tend to drift up in value? Guess what happens to bleeder resistors across HT supplies?

Check it, check it again, discharge it with your great big bleeder resistor on croc clips, then check it again. Then go and have a cup of tea, just to make sure it's had enough time.

--
Gordonjcp MM0YEQ

46770. Re: [TS-520_820_530_830] Low power output in tune mode TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-01 17:50:47 UTC
From: John Davidson
Topic: 46745 Message: 46770

Use a clip lead with a 100K 1W resistor to ground, firmly touched the hot end of each
 capacitor for several seconds to bleed it off before you touch anything !
!!!!!!!!!!!!!!!!!

On Tuesday, December 31, 2013 11:19 PM, Joseph Stiles <stilesjoseph@...> wrote:

Dale,

  Which capacitors are your talking about..the HV caps? If so, usually less than 10 minutes...but
NEVER...I say again... NEVER mess around with these...use your volt meter to check to make sure! Kind of a drag to spend the first days of the new year either in the hospital or worse... SK

73 Joe
WB7UQU

On Tuesday, December 31, 2013 8:11 PM, "dfm4290@..." <dfm4290@...> wrote:

>How long will I need to let the radio set so the capacitors have fully discharged?
>Thanks
>Dale (KD0GES)
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46771. Re: [TS-520_820_530_830] Low power output in tune mode TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-01 11:17:21 UTC
From: <dfm4290@...>
Topic: 46745 Message: 46771

I was using my volt meter when it arced between the probe and a couple of pins on the power supply board.
This was at least an hour after being unplugged.
The two main power supply capacitors were discharge.
Thanks (KD0GES)

46772. Re: [TS-520_820_530_830] a real puzzler / low drive on lower portions of bands

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-01 19:48:30 UTC
From: Craig Roberts
Topic: 46619 Message: 46772

Hey Terry,

A cursory examination of the variable cap linkage looked okay. (That was the first thing I checked, actually). But, I'll take a much closer look.

This anomaly is most dramatically demonstrated on 40 meters. Drive is very low on the first 75 KHz or so of the band (7.000 - 7.075), but is up to normal levels by about 7.100. However, the drive control acts uncharacteristically. Drive does not gradually increase with clockwise rotation of the drive control, as usual, but resonance appears quite suddenly with a very faint "pop". In other words, I have no ALC indication at, say, 9:59 but full ALC at 10:00 o'clock. Bands above 40 react normally with gradual drive "ramp up".

What's disturbing is that the symptoms appeared after I had removed, repaired and replaced the RF board. So, it is somehow my re-install that's at fault here. Something is badly out of kilter.
*
Say, what's the purpose of the blue wire soldered to the underside of VC-3? My radio, schematic and I are in separate venues at the moment. *

Oh -- you may be happy to know that my latest acquisition in my quest to rebuild a decent service bench -- and regain skills - is a Hakko 808 desoldering kit. It arrived yesterday but I have not yet had the opportunity to put it through its paces. Looks pretty nice.

VY 73,

Craig
W3CRR

46773. Re: [TS-520_820_530_830] a real puzzler / low drive on lower portions of bands

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-01 20:35:46 UTC
From: <wagstw46@...>
Topic: 46619 Message: 46773

Craig:

The Blue wire is your RF drive.

You will love the Hakko 808 and wonder how you ever got along without one. Makes childs play out of unsoldering the vertical bandswitch wafers pins on the RF board. Every so often will find one of the pins has been folded over and soldered and will take a little work, but generally components will just fall out of the board using the 808 gun.

First time I did a 14 pin IC I got a chuckle.

Did you do any work on 7mhz Mixer and Drive coils? Any soldering?

Did coil pack alignment go well with Drive control at 1200 and following the proper band sequence and VFO setting? Did 160 and 80 go well and then encounter problem with 40? I would think you would have seen problem trying to do the coil pack alignment or is that what you are describing?

Tell us again what coil you replaced. I think it was L21 Mixer? Was that only work you did on the board? Did you test the replacement coil prior to install in any way? Like measure resistance and inductance and compare to the one removed? I assume the removed one was not open or shorted winding just stuck core?

Terry K9TW

46774. Re: [TS-520_820_530_830] a real puzzler / low drive on lower portions of bands

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-01 21:10:10 UTC
From: Mark Gilger
Topic: 46619 Message: 46774

Just got mine yesterday. I got mine from eBay, used, but it looks
brand spanking new.

Nothing to try it on yet, but I'm ready. Just another tool for our tool bag.

Mark, WB0IQK

At 03:35 PM 1/1/2014, wagstw46@... wrote:
>
>
>Craig:
>
>
>The Blue wire is your RF drive.
>
>
>You will love the Hakko 808 and wonder how you ever got along
>without one. Makes childs play out of unsoldering the vertical
>bandswitch wafers pins on the RF board. Every so often will find one
>of the pins has been folded over and soldered and will take a little
>work, but generally components will just fall out of the board using
>the 808 gun.
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>First time I did a 14 pin IC I got a chuckle.
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>coil prior to install in any way? Like measure resistance and
>inductance and compare to the one removed? I assume the removed one
>was not open or shorted winding just stuck core?
>

46775. Re: [TS-520_820_530_830] Low power output in tune mode TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-01 21:11:09 UTC
From: <wagstw46@...>
Topic: 46745 Message: 46775

Discharging the HV caps will not prevent arcs and shocks on the Rect and Final boards as the 300 and 210 caps will remain charged for a long time. I and others have cautioned about this several times on this forum in past.

Terry K9TW

46776. Re: [TS-520_820_530_830] Low power output in tune mode TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-01 21:30:37 UTC
From: Wes Will
Topic: 46745 Message: 46776

On 01/01/2014 11:50 AM, John Davidson wrote:

> Use a clip lead with a 100K 1W resistor to ground, firmly touched the
> hot end of each capacitor for several seconds to bleed it off before
> you touch anything ! !!!!!!!!!!!!!!!!!!

Why no-none here has even mentioned having, making, or using what we called a "Zap Stick" when I was young and stupid, is rather beyond me.

Piece of dowel rod, 10K-100K 1-W resistor stuck (parallel to the long dimension) on the end. Piece of electrical tape works, or a couple of wraps of wire (that only touch the body of the resistor, by the way), some glue, anything to stick it on there. Bend one lead of the resistor to make a hook.

Don't make the resistor lead too short, you're going to be needing to reach into some tight places and the extra length can help.

Slip a hunk of heat-shrink or stripped-off insulation on the resistor lead before you form the hook, if there is a chance you could short things in a really tight chassis. Leave just the bent end uncovered.

Solder a hunk of insulated 16-ga or so on the other end of the resistor. Some heat-shrink, or tape, or a piece of stripped-out insulation slid over the resistor lead and solder joint. Alligator clip on the other end of the wire.

If you're really paranoid, some wraps of tape on the end of the dowel opposite the resistor.

Clip to the chassis, hook over the capacitor lead. Zap. Wait for a five count or so, no more charge.

If you like sparks (NOT RECOMMENDED), leave off the resistor.

I keep one of these on the bench, and have since I started mucking around with electronics, starting with stripping old tube TVs and radios for parts. One good zap from a capacitor in a TV flyback circuit, that has been sitting a year or more, and you learn to handle them with a little respect.

--
Wes Will
N9KDY

46777. Re: [TS-520_820_530_830] Low power output in tune mode TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-01 21:51:38 UTC
From: <wagstw46@...>
Topic: 46745 Message: 46777

I agree with Mr. Davidson to use a jumper lead with current limiting resistor instead of a screw driver. I dont do any welding in my rigs or customers rigs.

I dont use a 100K resistor. With a 100k if you dont leave it connected long enough can still have voltage after initial contact. This can even happen if you did get it discharged to 0 volts momentarily. Some refer to this effect as Trapped Charge or Dielectric Compression. I use a 10k resistor. 100K at 900vdc would be approx 10ma so could take some time to fully bleed off. 10k would be closer to 100ma.at full voltage. Just want enough current limiting resistance so arent stressing the caps by dumping lots of energy in a short time. Just dont touch grounding jumper on the caps, but attach it and leave it there for awhile. If you have made a "chicken stick" then you must hold it there for awhile and not just tap it. Better to apply at the filter cap plus leads than at top of Plate choke.

I am also anal and recommend you check your grounding jumper lead by reading it with your ohm meter to ring it before each use so it does not fool you. Could have an open at alligator clips connections at either end.

After discharging your filter caps the absolute best practice is to take a contact voltage reading with a known good voltmeter before you barehand touch. This is called a live-dead-live test. You check the meter and its leads on known energized source, check for presence of voltage on B+ lead where you placed your ground jumper, and then re-check the meter again on energized source. Now you know it is safe to barehand touch.

No electrician or transmitter tech ever got killed following this grounding and voltage testing procedure. Those who did are ones who touched what they thought or believed to be de-energized and dead.

I believe Joe mentioned taking the contact voltage test and he is spot on. Take it like you expect to find something.

What I have told you is best practice. How much of it you observe is up to you.

Terry K9TW

46778. Re: [TS-520_820_530_830] a real puzzler / low drive on lower portions of bands

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-01 21:55:00 UTC
From: W LEWIS
Topic: 46619 Message: 46778

Hey Mark,
Can I assume you got a Hakko 808?
Butch
KØPSA

On Wed, 1/1/14, Mark Gilger <mgilger@brightdsl.net> wrote:

Subject: Re: [TS-520_820_530_830] a real puzzler / low drive on lower portions of bands
To: TS-520_820_530_830@yahoogroups.com, TS-520_820_530_830@yahoogroups.com
Date: Wednesday, January 1, 2014, 3:10 PM

Just got mine yesterday. I got mine from eBay,
used, but it looks

brand spanking new.

Nothing to try it on yet, but I'm ready. Just another
tool for our tool bag.

Mark, WB0IQK

At 03:35 PM 1/1/2014, wagstw46@... wrote:

>

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>Craig:

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>The Blue wire is your RF drive.

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>You will love the Hakko 808 and wonder how you ever got
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>was not open or shorted winding just stuck core?

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46779. Re: [TS-520_820_530_830] a real puzzler / low drive on lower portions of bands

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-01 22:16:01 UTC
From: <wagstw46@...>
Topic: 46619 Message: 46779

Mark

You know that Dick W0NTA like me has 5 kids and lots of grand kids and he doesnt need you setting up shop and becoming band switch repair guru!

Next thing you know you will be rewinding plate chokes and L41s!

Terry K9TW

46780. Re: [TS-520_820_530_830] a real puzzler / low drive on lower portions of bands

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-01 22:50:53 UTC
From: Mark Gilger
Topic: 46619 Message: 46780

Yes, $140 worth,

Mark, WB0IQK

At 04:55 PM 1/1/2014, you wrote:
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>
>Hey Mark,
>Can I assume you got a Hakko 808?
>Butch
>KÃ□PSA
>----------
>On Wed, 1/1/14, Mark Gilger <mgilger@brightdsl.net> wrote:
>
>Subject: Re: [TS-520_820_530_830] a real puzzler
>/ low drive on lower portions of bands
>To: TS-520_820_530_830@yahoogroups.com, TS-520_820_530_830@yahoogroups.com
>Date: Wednesday, January 1, 2014, 3:10 PM
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46781. Re: [TS-520_820_530_830] a real puzzler / low drive on lower portions of bands

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-01 22:52:51 UTC
From: Mark Gilger
Topic: 46619 Message: 46781

You don't have anything to worry about. I just
bought it so I could say I have one. Isn't sort of a status symbol?

Mark, WB0IQK

At 05:16 PM 1/1/2014, you wrote:
>
>
>Mark
>
>
>You know that Dick W0NTA like me has 5 kids and
>lots of grand kids and he doesnt need you
>setting up shop and becoming band switch repair guru!
>
>
>Next thing you know you will be rewinding plate chokes and L41s!
>
>
>
>Terry K9TW
>

46782. Re: [TS-520_820_530_830] a real puzzler / low drive on lower portions of bands

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-01 23:07:30 UTC
From: <wagstw46@...>
Topic: 46619 Message: 46782

No having a wall of Heath gear and a wall of Kenwood gear and a wall of Drake gear including an L4B is a status symbol! Did I forget the Collins?

I dont know who is richer you or SAJ?

Happy New Year

Terry K9TW

46783. Re: [TS-520_820_530_830] Low power output in tune mode TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-01 23:34:55 UTC
From: <wagstw46@...>
Topic: 46745 Message: 46783

Wes:

I forgot about the Flybacks with integral capacitors. Even at nano farad values would hold a charge a long time same as the old CRT would act as a capacitor.

The idea of a "chicken stick" with a hook on one end allows you to hang it on B+ and to do so without placing yourself within reaching and falling distance of the high voltage.

I think more commonly employed in high voltage high wattage transmitters.with thousands if not 10s of thousands of anode voltage.

I made my jumper grounding cable using flexible belden 5kv test prod wire and good mueller alligator clips with rubber boots over them. I heat shrinked the series resistor. I clip the ground end alligator to chassis ground screw on rear panel of rig and then I clip the other alligator clip to screw driver and then I hold it on the Plus leads of the filter caps. After a count of 5 or so I unclip from the screw driver and then connect the alligator to the caps plus lead and leave it there until ready to work and then remove and check with voltmeter before I bare hand.

Nothing wrong with the chicken stick tool with a metal hook contact, but I prefer the more positive mechanical and electrical connection of the mueller alligator clip than just a hook making contact.

If I worked on Linear amps with several thousand anode voltage a "chicken stick" or whatever you call it would be a mandatory tool.

By the way I dont recommend grounding at top of the RF plate choke as you have to dump the capacitor energy thru both of the KW hybrid plate choke windings that are in series and no need to stress them. I recommend grounding at the HV filter caps positive terminals. Some people discharge the entire series stack and then do each one individually. In commercial transmitters may be shorting straps that can be connected across each cap.

As I mentioned in first response not good idea to just tap or touch grounding tool on for a moment as voltage on the caps can "regenerate" after removing the ground.

Terry K9TW

46784. RE: [TS-520_820_530_830] a real puzzler / low drive on lower portions of bands

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-01 23:40:13 UTC
From: fpath fpath
Topic: 46619 Message: 46784

Craig,

Sorry for the delay, but work gets in the way of hobby. Terry has given sound advice as usual. Was going to suggest that the little white gears on VC 1-3 do crack and may have come out of alignment with each other. Make sure that VC1 -3 are all in sync, meaning that when they are fully meshed they are all seated the same. As Terry indicated the blue wire is RF drive, when you removed this wire did you remove all the old solder and start with fresh, but saying this, if there was a high resistance then you'd be seeing similar issues in the higher bands. Seeing this has occurred after you removed the board for repairs, have a look at all the molex foil side of baord for minor crack or have you a solder whisker somewhere? Did you perform full alignment after replacing the coil?

73's

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: crgrbrts@...
Date: Tue, 31 Dec 2013 22:01:58 -0500
Subject: RE: [TS-520_820_530_830] a real puzzler / low drive on lower portions of bands

Hi Dave,

The load control is in its normal position(s). The most dramatic demonstration of the anomaly is on 40 meters. At about 7.100 MHz, for instance, in Tune/Send position, rotating the Drive control from full CCW results in no ALC indication until about 12 o'clock when the meter suddenly jumps up to normal readings. In other words, there is no gradual increase in ALC readings. As I mentioned, I have very little drive on the first 50 - 100 KHz of each band on 160, 80 and 40. Everything's normal on the upper bands.
Many thanks and 73,
Craig
W3CRR

fpath fpath <fpath@...> wrote:
Craig, Is the load control in or about the normal position or are you finding it hard CCW or CW? 73's Dave VK5PDL To: TS-520_820_530_830@yahoogroups.com From: crgrbrts@verizon.net Date: Tue, 31 Dec 2013 06:10:51 +0000 Subject: [TS-520_820_530_830] a real puzzler / low drive on lower portions of bands Well, we're almost there. ...same TS-830S with the reception problem (now solved with Molex connector pin repair on the AF board). We now have low drive - or no drive -- on the lower portions of the lower bands, i.e., 160, 80 and 40. In other words, using 80 as an example, drive and output are normal at 3.975 MHz but negligible at 3.525 unless I crank the carrier control wide open. Even then, the maximum output is no more than 50 watts. The situation is the same on 160 and 40 meters;

everything's fine at the upper ends of the bands but unwell at the lower ends. This anomaly became apparent after the RF board was pulled and replaced for the sake of replacing a 10 meter RF coil. The drive control seems to be at fault here, but I can find no misalignment of capacitor plates or other obvious unpleasantness. Whaddya think? Thanks, Craig W3CRR

46785. Ts 520.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-01 23:54:17 UTC
From: Ron
Topic: 46785 Message: 46785

I pulled the hanging boards on the unit for repair an replacement using diff boards and slugs my question is: what is the proper way to align wafer switches and band switch
Ron KK4PWF

46786. RE: [TS-520_820_530_830] a real puzzler / low drive on lower portions of bands

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-02 00:07:07 UTC
From: fpath fpath
Topic: 46619 Message: 46786

is the HAKKO 808 the handheld (drill looking) de-soldering iron. Now to make sure is it the gold label version lol

To: TS-520_820_530_830@yahoogroups.com
From: nscb56a@...
Date: Wed, 1 Jan 2014 13:55:00 -0800
Subject: Re: [TS-520_820_530_830] a real puzzler / low drive on lower portions of bands

Hey Mark,
Can I assume you got a Hakko 808?
Butch
KØPSA

On Wed, 1/1/14, Mark Gilger <mgilger@...> wrote:

Subject: Re: [TS-520_820_530_830] a real puzzler / low drive on lower portions of bands
To: TS-520_820_530_830@yahoogroups.com, TS-520_820_530_830@yahoogroups.com
Date: Wednesday, January 1, 2014, 3:10 PM

Just got mine yesterday. I got mine from eBay,
used, but it looks

brand spanking new.

Nothing to try it on yet, but I'm ready. Just another
tool for our tool bag.

Mark, WB0IQK

At 03:35 PM 1/1/2014, wagstw46@... wrote:

>

>

>Craig:

>

>

>The Blue wire is your RF drive.

>

>

>You will love the Hakko 808 and wonder how you ever got along

>without one. Makes childs play out of unsoldering the vertical

>bandswitch wafers pins on the RF board. Every so often will find one

>of the pins has been folded over and soldered and will take a little

>work, but generally components will just fall out of the board using

>the 808 gun.

>

>

>First time I did a 14 pin IC I got a chuckle.

>

>

>Did you do any work on 7mhz Mixer and Drive coils? Any soldering?

>

>

>Did coil pack alignment go well with Drive control at 1200 and

>following the proper band sequence and VFO setting? Did 160 and 80

>go well and then encounter problem with 40? I would think you would

>have seen problem trying to do the coil pack alignment or is that

>what you are describing?

>

>

>Tell us again what coil you replaced. I think it was L21 Mixer? Was

>that only work you did on the board? Did you test the replacement

>coil prior to install in any way? Like measure resistance and

>inductance and compare to the one removed? I assume the removed one

>was not open or shorted winding just stuck core?

>

46787. RE: [TS-520_820_530_830] a real puzzler / low drive on lower portions of bands

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-02 00:08:12 UTC
From: fpath fpath
Topic: 46619 Message: 46787

For got my signature block on end

Dave

VK5PDL

To: ts-520_820_530_830@yahoogroups.com
From: fpath@...
Date: Thu, 2 Jan 2014 10:37:07 +1030
Subject: RE: [TS-520_820_530_830] a real puzzler / low drive on lower portions of bands

is the HAKKO 808 the handheld (drill looking) de-soldering iron. Now to make sure is it the gold label version lol

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From: nscb56a@...
Date: Wed, 1 Jan 2014 13:55:00 -0800
Subject: Re: [TS-520_820_530_830] a real puzzler / low drive on lower portions of bands

Hey Mark,
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Butch
KØPSA

On Wed, 1/1/14, Mark Gilger <mgilger@...> wrote:

Subject: Re: [TS-520_820_530_830] a real puzzler / low drive on lower portions of bands
To: TS-520_820_530_830@yahoogroups.com, TS-520_820_530_830@yahoogroups.com
Date: Wednesday, January 1, 2014, 3:10 PM

Just got mine yesterday. I got mine from eBay,
used, but it looks

brand spanking new.

Nothing to try it on yet, but I'm ready. Just another
tool for our tool bag.

Mark, WB0IQK

At 03:35 PM 1/1/2014, wagstw46@... wrote:

>

>

>Craig:

>

>

>The Blue wire is your RF drive.

>

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vertical

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will find one

>of the pins has been folded over and soldered and will
take a little

>work, but generally components will just fall out of the
board using

>the 808 gun.

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>First time I did a 14 pin IC I got a chuckle.

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soldering?

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>Did coil pack alignment go well with Drive control at
1200 and

>following the proper band sequence and VFO setting? Did
160 and 80

>go well and then encounter problem with 40? I would
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>have seen problem trying to do the coil pack alignment
or is that

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>coil prior to install in any way? Like measure
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>inductance and compare to the one removed? I assume the
removed one

>was not open or shorted winding just stuck core?

>

46788. Re: [TS-520_820_530_830] Low power output in tune mode TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-02 00:31:36 UTC
From: <dfm4290@...>
Topic: 46745 Message: 46788

I bled off all of the power with a 100k resistor then checked for any remaining voltage with my volt meter.
I assume A bleeder resistor must be open.
I replaced the two 56k ohm resistors one was fine and the other was open.
Unfortunately after doing so I caused other problems. Probally a broken wire from moving the power supply board around.
Thanks for the help.
Dale (KD0GES)

46789. Re: [TS-520_820_530_830] a real puzzler / low drive on lower portions of bands

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-02 00:33:44 UTC
From: Craig Roberts
Topic: 46619 Message: 46789

Yup, the Hakko 808 looks kinda like one of those old Weller soldering guns with a conical tip. I can't wait to disassemble something now!

I will be re-aligning my TS-830S shortly. However, given my unpleasant experience with tweaking a coil on the RF board -- the, simple, five minute task that began my latest repair adventure* -- I am awaiting delivery of my can of CorrosionX for Electronics to employ as a coil slug lubricant. I will announce the results.

Many thaks and 73,

Craig
W3CRR

*While adjusting L21 to restore 10 meter drive, I got overly zealous and jammed the slug into the bottom of the coil, then broke off a chunk of it in an attempt to back out the slug. My equally clever subsequent move -- gluing a plastic stick to the top of the damaged slug -- resulted in my accidentally but effectively super-gluing the slug into the coil (archeologists will find this artifact 1,00 years from now). An especially kindly and generous list member donated a replacement L21 to me. My latest round of odd symptoms appeared after I replaced the coil.

46790. Re: [TS-520_820_530_830] a real puzzler / low drive on lower portions of bands

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-02 00:52:55 UTC
From: Wes Will
Topic: 46619 Message: 46790

On 01/01/2014 06:33 PM, Craig Roberts wrote:

> delivery of my can of CorrosionX for Electronics to employ as a coil
> slug lubricant. I will announce the results.

CorrosionX? Ok, why not. But with a toothpick to apply it, that is one of the few things for which I actually use WD-40. I don't like it for most anything else...

I've had pretty good luck using it for keeping coil slugs loose, and I've also used "Liquid Wrench" if the slug was stuck. Toothpick application of tiny droplets at the top of the slug, and let it sort of ooze its way down into the slug threads. Usually frees things right up after an hour or two. I've never needed to use the soldering-iron trick, but I'm keeping it in reserve for the next time I run into this.

--
Wes Will
N9KDY

46791. RE: Ts 520.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-02 01:26:02 UTC
From: <wagstw46@...>
Topic: 46785 Message: 46791

Ron:

Are you saying you didnt take picture or make drawing and now need to know how to orient each switch wafer to insert the band switch shaft? Not scolding just lesson learned for future.

If so, do this:

1. Place rig on its top. Remove the metal cover plate from S5 band switch.

2. Rotate bandswitch knob so white line is pointing at 29.1 and should see one of the two shaft flats on top facing up. Looking at rear of S5 should see 4 contacts on bottom of the rotation that the shaft wiper tab is making contact with. Look at the thru bolts and start counting from the right side clockwise. Contacts at 4, 5, 6 and 7 oclock positions (approx) should be touching the wiper tab. The wiper tab is quite wide. In other words the wiper tab should range from approx 2 oclock to 7 oclock position. At 8 oclock is the common wiper contact that is engaged at all times.

3. Now uncouple phenolc coupler and pull the shaft rod.

4. Beginning with the Drive Coil board (closest to rear of rig) rotate the wiper so that the wiper tab is at 1030, 1130, 1230 rivet positions.

5. Rotate the wiper tab of the next board (Ant Coil) to same.rivet positions as Step 4.

6. Rotate wiper tab of the next board (Mixer Coil) to same rivet positions as Step 4.

7. The Het Osc board (with the xtals mounted on it) has different style wiper. It has two small wiper tabs. Looking from front of rig they will be at 5 and 6 oclock positions.

8. Reinsert the shaft so flat is up and knob white line is indicating at 29.1mhz. Re-couple the phenolic coupler.

I disavow any responsibilty for glowing final tubes that may result from these instructions! Lets hope not!

Terry K9TW

46792. TS-520SE - Low Audio Receive, VERY high noise floor, worse on the upper end of the band

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-02 01:43:59 UTC
From: Wes Will
Topic: 46619 Message: 46792

I'm about to start another topic, regarding my 520SE.... Hope someone has a good idea to get me going.

I suspect it mostly just needs to be realigned, but I have seen the level of advice going through here for some months now, and suspect it would be about a size-12 case of the STUPIDS if I didn't ask before popping the case on the old girl and diving in with tuner wands and a signal generator.

First, across the board, and even with the dummy-load on, it's NOISY. Even with the antenna shorted to ground, it's NOISY. Very.

Also, receive sensitivity is degraded the higher up the band you go, all bands. The marker signal is the same all the way up, but received signals are very much attenuated at the high end. Using my signal generator feeding a loop of wire and inductively coupling it to the antenna inputs, I see that the same input value from the generator through the coils which produces an S-meter reading of S-9 at the bottom of any of the bands will give only an S-2 or S-3 reading at the top. I do the checking in CW mode, by the way.

I get the same readings using a 0.1 microfarad disc capacitor to couple the RF directly to the antenna input line. I of course lower the output amplitude of the signal generator before doing this. (I'm shooting for injecting a 0dB amplitude signal, fyi, and doing the jiggering and figuring to determine that is bringing back old knowledge from about forever ago.)

For instance:
With the generator tuned to 3.550 MHz, I get an S-9 and a clear, loud signal on the radio. (I use the internal modulation of the old Eico generator, by the way. I have it set to just about 440 Hz.) Tuned to 3.950, I get S-2. Of course I tune BOTH the generator and the receiver, and I check the voltage of the generator with an oscilloscope, the magnitudeof the generator output is the same for both readings, within less than a couple of percent, best I can manage to read it. Same basic variation when the signal is at 14.125 and then 14.450 MHz.

Same readings on CW/USB/LSB, seems to be agnostic about the mode. I use the CW mode for the testing, for the simplicity of measuring the frequencies in the receiver.

So, where do I look first, guys? I could start out just measuring all the levels on the receiver section of the service manual and hoping there was something drastically wrong, but I'm not only not lazy, but

I'm not stupid either. Scatter-gunning repair work is inefficient. I'm too lazy for that, my first degree is in Industrial Engineering which is "how to do anything with the least effort possible," if you're unfamiliar with the field. Null-therbligs, too right. (And the keep telling me it's "Cheaper by the dozen.")

I've got a list of several points that are common to all bands, since it's across the board, and I've got a feeling the very high noise problem is somehow related. Before I go solo on the problem, which I most assuredly will if I don't get better advice from the board, some advice and technique would be appreciated.

Obliged, TIA, mates. Have a good holiday, and cheers.
Na Vashem Zdorove, Tovarishchy.

--
Wes Will
N9KDY

46793. Re: [TS-520_820_530_830] Ts 520.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-02 03:17:33 UTC
From: Ron
Topic: 46785 Message: 46793

Yep U r right Terry but just half. Lol. I took pics of the wafer switches but I didn't look far enough ahead to the s5. Thanks Terry. Happy new year !!

Ron KK4PWF

On Jan 1, 2014, at 5:54 PM, Ron <bozo231@...> wrote:

>
> I pulled the hanging boards on the unit for repair an replacement using diff boards and slugs my question is: what is the proper way to align wafer switches and band switch
> Ron KK4PWF
>
> ------------------------------------
>
> Yahoo Groups Links
>
>
>

46794. Re: [TS-520_820_530_830] Ts 520.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-02 01:36:13 UTC
From: Michael Sylvester
Topic: 46785 Message: 46794

I buggered up a couple wafer switch contact fingers when I started wire brushing them 3 months ago.
Luckily it was the wafer towards the back edge of the RF board so I was able to do micro surgery with 22 or 24 gauge (I didn't check with gauge and GF dsoesn't remember what is in her jewelry stock) sterling silver wire and silver solder, tiny tip soldering iron.....I did have to pull the board though.
I use a 3 axis Panavise to hold the board in whatever position that works best, holding it immoble while I have both hands free. vaccum or suction base locks it down on the table if I want more stability.
Using 2.5 magnifying reading glasses for my old eyes and a magnifying lamp like you see on K4EAA's bench. "Electronic Microsurgery".

In my zeal and enthusiasm....and being wore out because it took forever....
...I lost track of the position of the wafer rotating disc....it took hours to study the schematic to understand the wafers well enough to get them in sync. There is one tab that sticks up on all wafers, they are all very similar, or identical, I forgot, but you get the idea.

Now, any time I pull an RF board I "match mark" the shafts at the couplings. Using a sharpie, place marks on the shafts, across the coupling and onto the other shaft.
When putting back together just line up the marks. Even a dummie like me won't bugger that method up.
If doing wafer work, replacing or repairing one, study the position of the discs and draw yourself some pictorial notes.
Think through the steps of tightening of the coupling in your head and rehearse it BEFORE removing the old one.
The matchmarks and some hand drawn pictures will save you hours of agravation later. Ask me how I know....
I can swap out a coupling (on some) in about 15 minutes.
Was it the 820S I had to take the front off to pull the shaft?
What a pain.
Buggered one up and it took me 6 hours to sort one out.....
WON'T make that mistake again.
Michael///KD0WSJ

On Wednesday, January 1, 2014 5:54 PM, Ron <bozo231@...> wrote:

I pulled the hanging boards on the unit for repair an replacement using diff boards and slugs my question is: what is the proper way to align wafer switches and band switch
Ron KK4PWF

46795. Re: [TS-520_820_530_830] TS-520S No Receive

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-02 02:32:30 UTC
From: Michael Sylvester
Topic: 46757 Message: 46795

Here's a omplete one in good condition that might go fairly cheap on eBay:
http://www.ebay.com/itm/Kenwood-TS-520S-/221345355134?pt=2_Way_Radios_FRS&hash=item338936157e
Or this one
http://www.ebay.com/itm/Kenwood-TS-520-with-optional-CW-FILTER-Parts-or-Repair-/201011382258?pt=US_Ham_Radio_Transceivers&hash=item2ecd3647f2
Not sure what these boards are, $25 for 2 boards, maybe you could contact this seller if they look like what you need, ask him for board numbers:
http://www.ebay.com/itm/Kenwood-TS-520-Miscellaneous-Parts-Free-Shipping-Con-US-/161103253328?pt=LH_DefaultDomain_0&hash=item2582808f50
You might contact this fellow, his name is Ricardo.
http://www.ebay.com/usr/charro815
I know he has several radios dimantled for selling the components. Right now he's not listing a whole lot, but I know he has quite a stockpile.
At least 4 or 5 radios cut up, parts not listed presently.
I know because i've been buying alot from him
and often check his "store".
Good luck.
Michael///KD0WSJ

On Tuesday, December 31, 2013 3:01 PM, "tghotdogz@..." <tghotdogz@...> wrote:

Hello again group. Tom in Reno here, W7OA. I sent this post several days ago but I haven't seen it show up yet so maybe it didn't go through for some reason. If it shows up again later, my apologies.
I picked up a TS-520S from ebay - sold as DOA for parts so no ebay story here. Anyway transmit was fine, receive was dead. Traced the problem to the 3rd. IF on the IF board. Q4 was bad - replaced it. Still dead. Came to find T6 IF transformer is open on the secondary. Does anyone have a parts IF board that they would possibly be willing to remove T6 from, or a whole board if the price isn't too steep?

Regards
Tom
W7OA

46796. Re: [TS-520_820_530_830] Low power output in tune mode TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-02 12:53:45 UTC
From: Gordon JC Pearce
Topic: 46745 Message: 46796

On Wed, Jan 01, 2014 at 03:34:55PM -0800, wagstw46@... wrote:
> As I mentioned in first response not good idea to just tap or touch grounding tool on for a moment as voltage on the caps can "regenerate" after removing the ground.
>

I've been bitten by audio amps that way. It's a good learning experience.

What really taught me to check the bleeder resistors aren't open was when I went to short across the beer can sized capacitors in a guitar amp I was building as a teenager, to stop them creeping up - they'd been left for five minutes, they'd surely have discharged through the bleeder, right? - and clapped a screwdriver across the terminals.

Oh well, I needed a short 3mm screwdriver and the tip of that one was pretty chewed *anyway*...

--
Gordonjcp MM0YEQ

46797. Re: [TS-520_820_530_830] Ts 520.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-02 14:14:06 UTC
From: <wagstw46@...>
Topic: 46785 Message: 46797

Ron

Your question was framed how to align the hanging board wafer switches to the bandswitch shaft. Could have saved some keystrokes if you had said you had the hanging boards all aligned and just needed to know how to couple its shaft to the S5 switch shaft.

You like to make me work!

Terry

46798. Re: [TS-520_820_530_830] Ts 520.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-02 15:06:11 UTC
From: Ron
Topic: 46785 Message: 46798

Lol Terry u love it an u know it !!!! But now I have the whole story for future ref. and a black marker !!! Lol

Ron KK4PWF

On Jan 2, 2014, at 9:14 AM, <wagstw46@...> wrote:

>
>
> Ron
>
>
>
> Your question was framed how to align the hanging board wafer switches to the bandswitch shaft. Could have saved some keystrokes if you had said you had the hanging boards all aligned and just needed to know how to couple its shaft to the S5 switch shaft.
>
>
>
> You like to make me work!
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> Terry
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46799. RE: TS-520SE - Low Audio Receive, VERY high noise floor, worse on the upper end of the band

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-02 15:25:27 UTC
From: <wagstw46@...>
Topic: 46619 Message: 46799

Wes:

Couple of points:

1. Is this a new condition?

2. It is normal for Rx gain to be less on 15 and more so on 10 meters. If you look at coil pack will see no small value fixed capacitor across the band switched Ant coil. This is because of the fixed parasitic capacitance that the PC traces and RF amp mosfet present. It forces the KW designers to use a less than optimum LC ratio ie too high an inductor value to resonate the tank circuit. This results in higher loss on 10 meters ie less gain.

So on a well aligned spec TS520SE using the Marker as a test signal source will result in higher S-meter indication on the low bands than on 15 and 10 meters. Should see close to S9 on low bands and falling off to maybe S5 or so on 10 meters. This is a rough test.

3. I assume you are using Eico (324?) and if so you will not be able to use it to accurately measure MDS for several reasons.
A. Cant use your O-scope to measure low signal levels required. 0db (KW Japanese units) is 0.50uv and you cant measure that with your O-scope.

B. You could set Sig gen for 100mv or 283mv P-P (a value you can measure) and attenuate down using an external step attenuator. Would need -106dB attenuation to get down to an accurate 0.50uv or 0dB level and average ham doesnt have that kind of step attenuator. I use a HP 355C and D which works in 1db steps to -132.

C. Even if you had the means to get to accurate 0dB you would not know what your receiver was seeing as these old LC type RF Sig Gens are pretty good transmitters. No idea how much signal is being seen via the test lead connection to the SO-239 and how much is being received via Sig gen leakage. Test is to remove the Sig gen test lead and if you can still hear the signal in the receiver then you know you were kidding yourself. Been there and done that!

4. These old Heath and Eico rf sig gens are good for troubleshooting a dead receiver, but not very useful for calibration and alignment work. No accurate step attenuator and very leaky.

5. As you know receiver noise is the hiss you hear out of the speaker when you have the rig on a dummy load. This normally low level hiss is primarily produced by the Mixers. You have three mixers...Het, VFO, and Product detector. If this noise level you are experiencing is a recent thing then may have a problem with Mixer stage?

6. One way average ham can evaluate his TS520SE is if you have a analog VTVM with dB scales. Here is procedure:
A. Tune to a clear place on the band on 10 meters
B. Switch off antenna to the dummy load

C. Connect your VTVM across the speaker or across a 8 ohm dummy load connected to the remote speaker jack.
D. Set AF gain pot for -10dB on the meter
E. Switch back to your antenna and note the dB reading. Should see something like 3 or 4dB. If you have a beam try swinging it thru 360 degrees and note highest dB.

The service manual around page 43 has the RX Level Diagrams in it. This is the best way to base line your KW hybrid receiver gain . Remember that all the dB figures are Japanese units and not the more familiar American uv or dBm units so you will have to convert. If you dont know how I can help. Need a calculator with anti-log or use log and 2nd key. Very easy. If I can do it anyone can.

The db figures listed are the levels you would inject from a good RF sig gen to produce a constant 0.63V rms output across an 8 ohm dummy load (50 milliwatts of audio output from the speaker). Remember do not want any AGC action when running this test.

Absent a calibrated RF Sig Gen and AF VTVM not possible to run RX level diagrams.

Terry K9TW

46800. Nice 70W digital soldering kit at Radio Shack - less than $30 on clearance

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-02 17:56:08 UTC
From: <bonnevilleblb@...>
Topic: 46800 Message: 46800

I had seen lots of conversations about soldering kits, and I figured I'd chime in about a deal I found on slickdeals.net showing Radio Shack has a really good 70W digital soldering kit for just under $30 on clearance:

http://slickdeals.net/f/6588268-clearance-radioshack-pro-line-70w-digital-soldering-station-model-gx-881-29-97?

Here's the actual link to the Radio Shack site, but in store they have 25% off on Clearance items, so go in to buy it for the discount - you can't get it online for the discounted price:

http://www.radioshack.com/product/index.jsp?productId=15725446&retainProdsInSession=1

I bought one last week and intend to try it out this weekend.

Slickdeals.net is one of the most helpful sites I've ever seen to save money on just about any kind of item, plus they let you post deal alerts to let you know when something you want is posted. They rarely have ham radio equipment posts (except for the occasional Baofeng posts), but they do have a lot of different types of electronics posted often.

Hope this helps someone!

Barry
KK4RXN
Jeremiah 29:11-13 / John 3:16

46801. VFO frequency stability

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-02 12:50:20 UTC
From: linutas
Topic: 46801 Message: 46801

Hello group,

I wanted to ask what would be the main reason for an unstable vfo when left idling. I put the funcion on my 820 to 25khz and let it sit for a while. Few months before the vfo usually got rock stable after a while and allowed me to work digital modes with ease. Now no matter for how long the vfo is drifting back and forwards like this http://bit.ly/1hXcroc .
It may not seem much, but for digital mode operation thats too much.

What could cause such instability?

Linas LY5AT

46802. RE: TS-520SE - Low Audio Receive, VERY high noise floor, worse on the upper end of the band

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-02 22:48:05 UTC
From: <wagstw46@...>
Topic: 46619 Message: 46802

Wes:

I realize we all have limits on our discretionary funds. Since I dont smoke or drink I like to think I have a minimum of $400 dollars a month for toys! At least that is how I justify it.

Thinking about a good RF sig gen here are some options:

1. Can find from time to time a HP-606 or a URM-25. Both have good calibrated output, but are loaded with tubes and big and heavy and getting long in the tooth.

2. Wavetek 3002 or SG1170/U (military version). This is a great PLL sig gen. Stable with accurate output attenuator. Dennis K8IFF is the guru near Detroit and he does a fantastic job re-furbing and aligning. Typically run around $200 to $250.

3. Could build a DDS based one. Best to add a good LP filter at output and still need good step attenuator.

4. Elecraft XG-3 is a pocket sized DDS based unit and all you need. It has four commonly used output levels. It can be programmed with your lap top to include the common KW hybrid frequencies and goes built for around $180.00. I have one that I take to hamfests for testing of potential purchases.

5. Elecraft XG-2 is a kit that puts out a calibrated 1uv (-107dBm) and 50uv (-73dBm) signal on 80, 40 and 20 meters on three crystal frequencies. These two output levels are what you need for RF/IF alignment and caling the S-meter. The 1uv level would be ideal for measuring MDS as you would like to do with your 520SE. Does not come in an enclosure. Approx $80.00

6. MFJ-259B. Some folks have this antenna analyzer and have no idea that they have a signal generator with an accurate and stable 2v P-P alc'd output, a frequency counter, and 1.8 to 170 mhz output. All you need to do is add a step attenuator. I dont know about any of the other antenna analyzers as sig gens.

7. Step attenuators include the MFJ unit that is 81 dB in 1 dB steps, Elecraft and Hendricks QRP make 41 dB attenuators. Can buy two and place in series or buy the MFJ and add a homebrew 30 dB T-pad in series. Can make step attenuators but by the time you buy good switches, precision resistors, doublesided PC board for shielding, enclosures, and BNC connectors you will approach cost of commercial unit (depends on how well stocked junk box you have).

So this is some ideas of what you can do regards a RF sig gen that will serve well for KW hybrid work.

If you can borrow a calibrated RF sig gen I can share with you simple procedure to measure MDS. Just need a DMM or VTVM and calculator with Log key. Your TS520SE should be close to -125dBm.

Sample calc:

1. 3.9v rms across speaker with 1 uv (-107dBm) injected into SO-239
2. 0.50v rms across speaker with rig on dummy load
3. 3.9/.5 = 7.8
4. Log of 7.8 = .892
5. .892 x 20 = 17.84
6 -107dBm - 17.84dBm = -124.84dBm

MDS = -125 dBm

Terry K9TW

46803. Re: [TS-520_820_530_830] RE: TS-520SE - Low Audio Receive, VERY high noise floor, worse on the upper end of the band

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-03 01:34:43 UTC
From: Wes Will
Topic: 46619 Message: 46803

> 1. Is this a new condition?

Nope. Working like this since I got the rectifier board back together, actually. Didn't mess with it until I had at least SOME antenna on there, so I've left it alone and pretty much been working on other things. I thought it was off before, but didn't want to bring it up before I had something a little more like reasoning to work with.

> 2. It is normal for Rx gain to be less on 15 and more so on 10 meters.

I know about the interelectrode capacitance issues, and using them to get resonance on 10 meters. I understand the trade-offs with the low-Q coils that were chosen to get at least SOME output on 10, and I've read your posts on the subject as well.

This is not between bands. It is internally consistent on all of the bands, with the higher frequencies showing the same sort of drop-off, just starting from a lower signal strength point on the 'good' (low) end of the band or band segment (in the case of 10).

This is between the top of and the bottom of the same band or band segment; the signal strength drops WAY off. many S units, as you tune UP the band/segment.

> to maybe S5 or so on 10 meters. This is a rough test.

The ten-meter sections marker shows S-7 on the low end of each of the 10M band segments, which drops down to about S-3, barely above the noise floor, on the upper end of any segment.

> 3. I assume you are using Eico (324?) and if so you will not be able to
> use it to accurately measure MDS for several reasons.

Didn't expect it to be good enough, knew it AAMOF, but at the moment it's better than nothing. Barely, but it does give me at least SOME signal to work with.

It's a clean signal buried in a LOT of noise.

> A. Cant use your O-scope to measure low signal levels required. 0db (KW
> Japanese units) is 0.50uv and you cant measure that with your O-scope.

Another, "knew it" but preferred to be told for sure. Wishful thinking. GOTTA upgrade my bench, a lot.

> I use a HP 355C and D which works in 1db steps to -132.

Don't know that I can afford one, but I'd really like a 355C. The D would be nice, but the C would be a god-send. Extremely nice attenuator, and it's all MANUAL, not digitally-anythinged... Much more my speed.

> still hear the signal in the receiver then you know you were kidding
> yourself. Been there and done that!

A-yup. You did notice the part about the half-dozen loops of wire on a board, around some tacks, right? I could put a microphone on that old Eico, tweak up some sort of an antenna, and have an AM/CW QRP rig on about any HF band. It drifts like a son-of-a-gun without an hour or so warm-up, but it's at least reliably got -something- coming out the leads.

> 4. These old Heath and Eico rf sig gens are good for troubleshooting a
> dead receiver, but not very useful for calibration and alignment work.
> No accurate step attenuator and very leaky.

That's all I've used it for, to date. Splitting the receiver for troubleshooting, for instance, on one of those old AA-5 receivers. Don't really expect it to be much good for anything more, but I do want to use it as well as it can be used.

> 5. As you know receiver noise is the hiss you hear out of the speaker

Brownian noise, intergalactic hiss, whatever you like to call it. It's noise, and there should be less of it with the antenna grounded to the chassis but it's not significantly lower.

> Het, VFO, and Product detector. If this noise level you are
experiencing is a recent
> thing then may have a problem with Mixer stage?

It could still be a problem with the mixer(s), that is where I'm starting anyway. I've been on that section of the service guide and schematic and user's manual.

> 6. One way average ham can evaluate his TS520SE is if you have a analog
> VTVM with dB scales. Here is procedure:

THIS is what I was hoping you'd get to. I couldn't find this procedure when I started searching for it, and I -knew- there was a way to use a decibel scaled meter for a go/no-go sort of test. Not all that definitive, but it's a fantastic way to sort out which direction to go. I will get into this tomorrow, if things go well at the doctor's office. My wife is having some tests, and I expect her to be a bit on the groggy side afterwards, which will leave me free to putter in the shack for several solid hours.

> A. Tune to a clear place on the band on 10 meters
>
> B. Switch off antenna to the dummy load
>
> C. Connect your VTVM across the speaker or across a 8 ohm dummy load

> connected to the remote speaker jack.
>
> D. Set AF gain pot for -10dB on the meter
>
> E. Switch back to your antenna and note the dB reading. Should see
> something like 3 or 4dB. If you have a beam try swinging it thru 360
> degrees and note highest dB.

I've presently got a LONG-WIRE out the basement and up a tree. It will be replaced with a G5RV once the temperatures here get back above freezing for substantial parts of the day. Presently it's minus seven C (that's about 20 or 21 Fahrenheit, I think) and it's supposed to drop to minus fifteen or so tonight, still air temp, and with the wind chill it is predicted to be minus twenty-five or so. I'm NOT stringing home-brew ladder line and 70-meter-long dipole legs with that kind of wind chill, the long-wire will have to suffice for now.

(I'm running it through the Versatuner III, and then to the 520. Trying to tune up a long-wire with just the internal pi section of the rig would be a recipe for failure, and maybe even new tubes.)

> The service manual around page 43 has the RX Level Diagrams in it. This

I think it's page 41, I've been living on that page, and the schematic sections, for some days now. I really AM trying not to be a knob about this, though I am not exactly making such a good job of it, am I? Told you getting that Extra license scared the crap out of me. I don't like being caught out in a real storm of stupid.

> how I can help. Need a calculator with anti-log or use log and 2nd key.
> Very easy. If I can do it anyone can.

I used to do it on a slipstick. Probably couldn't do that any more, but my calculator does inverse- or anti- logs.

> The db figures listed are the levels you would inject from a good RF sig
> gen to produce a constant 0.63V rms output across an 8 ohm dummy load (
> 50 milliwatts of audio output from the speaker). Remember do not want
> any AGC action when running this test.

Actually, that dime hadn't dropped, truthfully, but as soon as I read that it made really perfectly good sense. AGC would tend to change the results, now wouldn't it?

> Absent a calibrated RF Sig Gen and AF VTVM not possible to run RX level
> diagrams.

Got the VTVM. Got the RF probes on the bench being built. The VTVM is pretty well calibrated. I took it to the Engineering building and used one of their calibrated high-precision meters and got it pretty close.

Would LOVE a calibratable signal gennie.

Got a specific model you're partial to? I'm apparently in the market.

--
Wes Will
N9KDY

46804. Re: [TS-520_820_530_830] RE: TS-520SE - Low Audio Receive, VERY high noise floor, worse on the upper end of the band

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-03 01:56:22 UTC
From: Wes Will
Topic: 46619 Message: 46804

> 3. Could build a DDS based one. Best to add a good LP filter at output
> and still need good step attenuator.

It's sitting at the shop, the guy who designed and built the kit (N2APB), has it in his shop again, to get my obviously-ham-fisted surface-mount soldering job into something like working order. I apparently got three of four of the input channels on the first go, but channel four (V-sub-r) isn't making any sense to the CPU yet. I think there's either a bad SMD capacitor on there, or possibly a solder bridge or lifted trace from over-heating.

What I'm talking about is:

http://midnightdesignsolutions.com/micro908/index.html

one of these. Beats an MFJ model, actually, specifications compared to each other, and it seems to be a reasonable and fairly-accurate standard. It should be back here in a few days, maybe a week, or two maximum. I'm going to keep on mucking with antennas at the moment, and work on building up some of my bench tools. I've got a local ham friend who has a decent generator I can borrow, I'll talk to him over the weekend if he's in the area.

If he can loan it to me, I'll get started sooner, but otherwise I'll be waiting for that Micro908 analyzer/signal generator to get back here for my permanent bench set-up.

And I'll be using the VTVM decibel measurement ball-park procedure in your previous post to get more familiar with where everything is inside the chassis. After the power supply and rectifier troubles I had in the early goings, I got quite comfortable with working on and around those boards (rectifier, HV doubler, etc.). The other parts - RF, mixer, etc., are still terra incognita in too many ways. Time for more schematic and layout studying. Doubt that will change for some time.

--
Wes Will
N9KDY

46805. Re: [TS-520_820_530_830] RE: TS-520SE - Low Audio Receive, VERY high noise floor, worse on the upper end of the band

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-03 13:22:29 UTC
From: <wagstw46@...>
Topic: 46619 Message: 46805

Wes:

One question:

I am still not clear if receiver was ever "normal" in your possession?

Do I understand that the receiver noise level was "normal" until you did the rectifier board repair? If so, refresh me on what repair you made. I seem to recall you were looking for original diodes at one time, but do not remember the extent of damage on the board and exactly what repairs you made.

No voltages high enough to be producing corona. If HV had carbon path suspect should see that on HV panel meter with unstable indication and wouldnt last very long before failure. Perhaps a bad/loose board ground?

Might put your O-scope on the 14vdc output. Also, look at 14vdc input to AVR board and the 9vdc output from the AVR board.

Terry K9TW

46806. dial digits switch early on TS820 remote VFO

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-03 16:45:19 UTC
From: <greg.anders@...>
Topic: 46806 Message: 46806

I wonder if anyone has fixed an issue with an 820 remote VFO where the most significant digits change prematurely when tuning the dial. When I go from 100-200 the digit changes to "2" at about 180 not 200. Anyone seen and fixed this??

Greg

46807. SV: SV: SV: SV: SV: SV: SV: SV: [TS-520_820_530_830] TS830S no bias

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-03 20:43:10 UTC
From: Peter Ravn
Topic: 46257 Message: 46807

Terry,

Before plugging in the finals I checked final voltages once again and was puzzled by what I found.

In RX bias is – 110 VDC on the terminal –C of the rectifier board and – 100 VDC on terminal FG of the AF board and on terminal FG and pin 5 on the final unit board. The reason for the drop in voltage is not quite clear to me.

Still in RX bias can be adjusted from – 100 VDC to – 90 VDC with the bias pot metre, but in TUNE mode with SEND flipped bias runs only between – 75 VDC and – 30 VDC. Before it ran up till – 100 VDC.

Even more worrying is the drop of screen voltages. On terminal 210A and 210B on the rectifier board there are 252 VDC, but on terminal SG on the final unit board there are only – 54 VDC in RX mode with the SG SWITCH off and 120 VDC with the SG SWITCH on. On terminal PD1, PD2 and SG1 on the rectifier board there are 54 VDC on each and zero on SG1.

73

Peter OZ8CTH

Fra: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com] På vegne af wagstw46@...
Sendt: 30. december 2013 20:34
Til: TS-520_820_530_830@yahoogroups.com
Emne: RE: SV: SV: SV: SV: SV: SV: SV: [TS-520_820_530_830] TS830S no bias

Peter:

C8 is an RF bypass capacitor. Its performance or failure would not be related to tube arc over or tube thermal run away events.

It is extremely difficult to make a solenoid wound Plate choke that will present an acceptably high amount of inductive reactance across the frequency range of our KW hybrids without having a series resonant hole in it close to one of our bands. Adding 160 meters to the transceivers made it even harder to design an effective choke. Couple of options. 1. Use space wound choke to break up the distributed capacitance or 2. Add an additional choke at cold end and orient it at a right angle to break up the mutual inductance coupling. KW chose method 2 as space winding means a much taller choke.

L2 Plate Choke is there to allow us to supply 900vdc anode voltage to the 6146 finals and prevent RF current from flowing back to the HV power supply. The HV filter caps wont like RF. In addition to not wanting ripple on our DC supply it will cause dielectric heating and over time can damage the HV filter capacitors.

L2 is approx 168uhy with a parallel resonant point at approx 14.0 mhz. This means it will have the highest inductive reactance around 20 meters ie it will function best there to provide the highest inductive reactance (opposition to rf current flow). Its first series resonant hole is around 25mhz which is almost too close to comfort for 24mhz operation as that means it will have the lowest inductive reactance and less opposition to RF current flow.

Since L2 cannot offer high reactance across the entire operating range there will always be some RF current that will get past it. We place C8 at "cold end" of the choke to shunt any RF that makes it past L2s windings to ground. C8 has to be a Type 1 capacitor designed for RF current. It is essentially in severe duty.

It is not uncommon to see it discolored, have hole blown in it, and/or the case split open. Always good to inspect it when working on PA cage and as you discovered measuring the capacitance is not an effective way to assess its condition.

Having not witnessed your event and only going on my understanding of what you described it clearly sounds like thermal runaway due to loss of -dc operating bias voltage which is not related to the damage you see on C8.

Who knows maybe you had thermal runaway accompanied by an arc over? If elements sagged could have actually contacted and shorted as opposed to anode voltage ionizing the gas and conducting to the beam plates in the typical manner.

Terry K9TW

.

46808. Re: SV: SV: SV: SV: SV: SV: SV: SV: [TS-520_820_530_830] TS830S no bias

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-03 22:12:04 UTC
From: Mike W5RKL
Topic: 46257 Message: 46808

Peter,

I don't want to interfere with you and Terry, just thought I would say a few words about your voltage measurements.

First, the Rectifier Unit's "210A" terminal is the driver and both final tube screen power supply "output". The Rectifier Unit's "210B" is not the screen supply's output, it's the output of the screen supply's "rectifier" voltage that is applied to the capacitive input filter on the IF unit. The Rectifier Unit's "210A" and "210B" terminals can be confusing until you trace the wiring on the schematic to the IF Unit's plug 14 pins 1 and 3 and back to the Rectifier Unit. The driver and both final tube screen supply is a half wave rectifier feeding a capacitive input PI filter. The rectifier is D6, C181 (22ufd 350VDC) and C180 (22ufd 350VDC) radial lead capacitors, with R11, 470 ohm resistor connected between C180 and C181's positive terminals. It's a very simple none regulated half wave DC screen supply for the driver and both final tubes.

Next, with the MODE switch set to TUNE, the "210A" output voltage is applied to the Rectifier Unit's relay "RL1" then to the voltage divider resistors R15 and R16, both are 56K 1/2 watt. The voltage at the junction of R15 and R16 is then applied to the Rectifier Unit's "TUNE" terminal which is then applied to the MODE switches "TUNE" terminal. The TUNE voltage is then applied over the "SG1" wire to the Rectifier Unit's "SG1" terminal where it flows through L1 and out PD2 to the Final Unit's "SG" terminal.

Here is how the TUNE mode reduces the final tube screen voltage by 50%. For example, lets say the 210A screen supply output voltage is "+265VDC" and the MODE switch is set to TUNE. The 210A voltage is applied to the voltage divider resistors R15 and R16 through the Rectifier Unit's relay RL1 resulting in approximately .00236 amps of current flowing through both R15 and R16 (265 / 112000 = .00236). This result in a voltage drop across R15 of approximately +132.5VDC (.00236 x 56000 = 132.5) resulting in +132.5VDC at the junction of R15 and R16. The "+132.5VDC" is then applied to the Rectifier Unit's "TUNE" terminal, then to the MODE switch TUNE terminal, through the MODE switch wiper and back through the "SG1" wiring to the Rectifier Unit's "SG1" terminal, through L1, out PD2, to the Final Unit's "SG" terminal then to the 6146 screens. This 50% decrease in screen voltage to the final tube is how the DC input power is reduced in TUNE mode. The final tube screen voltage is reduced in TUNE mode but not the driver tube's screen voltage.

The SG switch, when set to "OFF", will energize the Rectifier Unit's relay RL1. If the relay does not energize with the SG switch set to OFF then check for 12VDC at the AF Unit's "12" terminal.

You said you measured 52VDC at the Rectifier Unit's "PD1, PD2, and SG1" terminal but then you said you measured 0VDC at "SG1". You can't have 52VDC and 0VDC on the SG1 terminal at the same time.

73
Mike W5RKL

On 1/3/2014 2:43 PM, Peter Ravn wrote:
>
> Terry,
>
> Before plugging in the finals I checked final voltages once again and
> was puzzled by what I found.
>
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> and ? SG1 on the rectifier board there are 54 VDC on each and zero on SG1.
>
> 73
>
> Peter OZ8CTH
>
> *Fra:*TS-520_820_530_830@yahoogroups.com
> [mailto:TS-520_820_530_830@yahoogroups.com] *På vegne af
> *wagstw46@...
> *Sendt:* 30. december 2013 20:34
> *Til:* TS-520_820_530_830@yahoogroups.com
> *Emne:* RE: SV: SV: SV: SV: SV: SV: SV: [TS-520_820_530_830] TS830S no
> bias
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> related to tube arc over or tube thermal run away events.

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> capacitance or 2. Add an additional choke at cold end and orient it at
> a right angle to break up the mutual inductance coupling. KW chose
> method 2 as space winding means a much taller choke.
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> current. It is essentially in severe duty.
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> PA cage and as you discovered measuring the capacitance is not an
> effective way to assess its condition.
>
> Having not witnessed your event and only going on my understanding of
> what you described it clearly sounds like thermal runaway due to loss
> of -dc operating bias voltage which is not related to the damage you
> see on C8.
>
> Who knows maybe you had thermal runaway accompanied by an arc over? If
> elements sagged could have actually contacted and shorted as opposed
> to anode voltage ionizing the gas and conducting to the beam plates in
> the typical manner.
>
> Terry K9TW
>
> .
>

>
>
>
>

46809. greetings for the new year

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-03 22:12:09 UTC
From: Joseph Stiles
Topic: 46809 Message: 46809

Greetings Group!

Well, we've made it into 2014! The past year has seen many changes, people have left, people have joined, and we've had some "administrative changes" too! All in all, we're doing a pretty good job ofkeeping these fine Kenwoods functioning. I want to thank out in the open the following group members for "Elmering," "mentoring," or any other term you care to attach, and just putting up with those of us that are less learned:
Terry-k9tw(complete explanations of why/how things function), Mike-w5rkl(tnx fer the videos and explanation(s), along with Terry) Gordon-n6wk (for maintaining your web site...and for being there when needed). There are others that also have contributed their knowledge/experience regarding electronics in general, and Kenwood hybrids specifically, your assistance/help is also appreciated!

So, especially for the newer members: the "files section" has tons of info that will more than likely contain info regarding your rigs problem(s). Please, take some time to do your research prior to posting a question. This not is meant to discourage you from asking questions...but sometimes...the question(s) have already been asked and possibly answered. If you are still unsure..feel free to ask.

The Co-owners and moderators...believe it or not..do sleep...and have other "stuff" to do, so if you are a newer member.. or otherwise "moderated", please understand that we try our best to review your posts as quickly as possible and, if appropriate, "approve" them to be sent the the groups main message area.

So...that's it...thanks for your attention...a wonderful 2014 to you all ...hey...it can only get better!

73 Joe
WB7UQU
Group Co-owner

46810. Re: SV: SV: SV: SV: SV: SV: SV: SV: [TS-520_820_530_830] TS830S no bias

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-03 23:05:31 UTC
From: <wagstw46@...>
Topic: 46257 Message: 46810

Mike:

You are not interfering. You were originally working with Peter and should continue to do so.

I only got involved with Peter when he was talking about doing my protection mod and was asking about if thought the finals were damaged and should he use them again.

I did not feel that he and certainly me understood the root cause of the event. I was leaning toward thermal run away.

I wanted him to understand if he did not have a good operating bias voltage that the protection mod would not help. It is designed to address arc over from anode to beam plates and not thermal runaway events.

I previously provided my opinion about using the finals over again. If he knows the root cause of the failure then couple of different answers. Arc over does not always damage the tubes. Some people will try the finals again and frequently they will be just fine. I did it one time and couple of days later popped cathode resistors again so I dont trust them and would not use them over.

If root cause was thermal runaway in my opinion much more likely that the finals have been damaged due to elements sagging and contacting. Clearly would not use these again.

I understand he had to pay approx two to three times what we would for same tubes stateside and why he would like to use them again if he could.

The last response I had to Peter was to be 125% certain that he had a good smooth operating bias voltage adjust pot and could set the voltage to approx -60vdc before installing finals.

So unless Peter needs some help regarding the protection mod I would prefer that you would pick back up and work with him.

Terry K9TW

46811. Reports of poor audio on 830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-04 13:38:54 UTC
From: <mi_magic3@...>
Topic: 46811 Message: 46811

Hello and Happy New year all. Been looking and trying to see if any other posts or articles were on the subject of poor transmit audio. I have a stock TS-830S with the MC-50 mic. Changing from hi to lo Z does have some change and also turning the processor on does make some difference too, but many complain of no bass and all highs in my transmit audio. I also have a Yaesu FT-847 and using the stock hand mic get better audio reports talking to the same station(s). Most have said the 830 is noted for its super transmit audio and WAV files sent to me from other stations do in fact sound tinny. Wondering if any internal adjustments are available? I typically have the processor at about 12 o'clock postion and the mic gain at about 3 o'clock. Any help appreciated. Thank you.

46812. SV: SV: SV: SV: SV: SV: SV: SV: SV: [TS-520_820_530_830] TS830S no bias

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-04 15:35:25 UTC
From: Peter Ravn
Topic: 46257 Message: 46812

Mike,

On power up the RL1 relay on the rectifier board is being energized. With the SG switch set to ON, RL1 goes back to the position before power up.

RECTIFIER BOARD IN STAND-BY WITH FINAL TUBES REMOVED

TERMINAL

SG SWITCH OFF

SG SWITCH ON

210A

+252

+252

210B

+252

+252

SG1

-54

+128

SG2

-110

+254

PD1

-54

+128

PD2

-54

+128

12

12

12

-C

-108

-107

TUN

-54

+128

73

Peter OZ8CTH

Fra: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com] På vegne af Mike W5RKL
Sendt: 3. januar 2014 23:12
Til: TS-520_820_530_830@yahoogroups.com
Emne: Re: SV: SV: SV: SV: SV: SV: SV: SV: [TS-520_820_530_830] TS830S no bias

Peter,

I don't want to interfere with you and Terry, just thought I would say a few words about your voltage measurements.

First, the Rectifier Unit's "210A" terminal is the driver and both final tube screen power supply "output". The Rectifier Unit's "210B" is not the screen supply's output, it's the output of the screen supply's "rectifier" voltage that is applied to the capacitive input filter on the IF unit. The Rectifier Unit's "210A" and "210B" terminals can be confusing until you trace the wiring on the schematic to the IF Unit's plug 14 pins 1 and 3 and back to the Rectifier Unit. The driver and both final tube screen supply is a half wave rectifier feeding a capacitive input PI filter. The rectifier is D6, C181 (22ufd 350VDC) and C180 (22ufd 350VDC) radial lead capacitors, with R11, 470 ohm resistor connected between C180 and C181's positive terminals. It's a very simple none regulated half wave DC screen supply for the driver and both final tubes.

Next, with the MODE switch set to TUNE, the "210A" output voltage is applied to the Rectifier Unit's relay "RL1" then to the voltage divider resistors R15 and R16, both are 56K 1/2 watt. The voltage at the junction of R15 and R16 is then applied to the Rectifier Unit's "TUNE" terminal which is then applied to the MODE switches "TUNE" terminal. The TUNE voltage is then applied over the "SG1" wire to the Rectifier Unit's "SG1" terminal where it flows through L1 and out PD2 to the Final Unit's "SG" terminal.

Here is how the TUNE mode reduces the final tube screen voltage by 50%. For example, lets say the 210A screen supply output voltage is "+265VDC" and the MODE switch is set to TUNE. The 210A voltage is applied to the voltage divider resistors R15 and R16 through the Rectifier Unit's relay RL1 resulting in approximately .00236 amps of current flowing

through both R15 and R16 (265 / 112000 = .00236). This result in a voltage drop across R15 of approximately +132.5VDC (.00236 x 56000 = 132.5) resulting in +132.5VDC at the junction of R15 and R16. The "+132.5VDC" is then applied to the Rectifier Unit's "TUNE" terminal, then to the MODE switch TUNE terminal, through the MODE switch wiper and back through the "SG1" wiring to the Rectifier Unit's "SG1" terminal, through L1, out PD2, to the Final Unit's "SG" terminal then to the 6146 screens. This 50% decrease in screen voltage to the final tube is how the DC input power is reduced in TUNE mode. The final tube screen voltage is reduced in TUNE mode but not the driver tube's screen voltage.

The SG switch, when set to "OFF", will energize the Rectifier Unit's relay RL1. If the relay does not energize with the SG switch set to OFF then check for 12VDC at the AF Unit's "12" terminal.

You said you measured 52VDC at the Rectifier Unit's "PD1, PD2, and SG1" terminal but then you said you measured 0VDC at "SG1". You can't have 52VDC and 0VDC on the SG1 terminal at the same time.

73
Mike W5RKL

On 1/3/2014 2:43 PM, Peter Ravn wrote:

Terry,

Before plugging in the finals I checked final voltages once again and was puzzled by what I found.

In RX bias is â€“ 110 VDC on the terminal â€“C of the rectifier board and â€“ 100 VDC on terminal FG of the AF board and on terminal FG and pin 5 on the final unit board. The reason for the drop in voltage is not quite clear to me.

Still in RX bias can be adjusted from â€“ 100 VDC to â€“ 90 VDC with the bias pot metre, but in TUNE mode with SEND flipped bias runs only between â€“ 75 VDC and â€“ 30 VDC. Before it ran up till â€“ 100 VDC.

Even more worrying is the drop of screen voltages. On terminal 210A and 210B on the rectifier board there are 252 VDC, but on terminal SG on the final unit board there are only â€“ 54 VDC in RX mode with the SG SWITCH off and 120 VDC with the SG SWITCH on. On terminal PD1, PD2 and Â SG1 on the rectifier board there are 54 VDC on each and zero on SG1.

73

Peter OZ8CTH

Fra: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com] PÃ¥ vegne af wagstw46@...
Sendt: 30. december 2013 20:34
Til: TS-520_820_530_830@yahoogroups.com
Emne: RE: SV: SV: SV: SV: SV: SV: SV: [TS-520_820_530_830] TS830S no bias

Peter:

C8 is an RF bypass capacitor. Its performance or failure would not be related to tube arc over or tube thermal run away events.

It is extremely difficult to make a solenoid wound Plate choke that will present an acceptably high amount of inductive reactance across the frequency range of our KW hybrids without having a series resonant hole in it close to one of our bands. Adding 160 meters to the transceivers made it even harder to design an effective choke. Couple of options. 1. Use space wound choke to break up the distributed capacitance or 2. Add an additional choke at cold end and orient it at a right angle to break up the mutual inductance coupling. KW chose method 2 as space winding means a much taller choke.

L2 Plate Choke is there to allow us to supply 900vdc anode voltage to the 6146 finals and prevent RF current from flowing back to the HV power supply. The HV filter caps wont like RF. In addition to not wanting ripple on our DC supply it will cause dielectric heating and over time can damage the HV filter capacitors.

L2 is approx 168uhy with a parallel resonant point at approx 14.0 mhz. This means it will have the highest inductive reactance around 20 meters ie it will function best there to provide the highest inductive reactance (opposition to rf current flow). Its first series resonant hole is around 25mhz which is almost too close to comfort for 24mhz operation as that means it will have the lowest inductive reactance and less opposition to RF current flow.

Since L2 cannot offer high reactance across the entire operating range there will always be some RF current that will get past it. We place C8 at "cold end" of the choke to shunt any RF that makes it past L2s windings to ground. C8 has to be a Type 1 capacitor designed for RF current. It is essentially in severe duty.

It is not uncommon to see it discolored, have hole blown in it, and/or the case split open. Always good to inspect it when working on PA cage and as you discovered measuring the capacitance is not an effective way to assess its condition.

Having not witnessed your event and only going on my understanding of what you described it clearly sounds like thermal runaway due to loss of -dc operating bias voltage which is not related to the damage you see on C8.

Who knows maybe you had thermal runaway accompanied by an arc over? If elements sagged could have actually contacted and shorted as opposed to anode voltage ionizing the gas and conducting to the beam plates in the typical manner.

Terry K9TW

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46813. Re: SV: SV: SV: SV: SV: SV: SV: SV: SV: [TS-520_820_530_830] TS830S no bias

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-04 17:52:07 UTC
From: Mike W5RKL
Topic: 46257 Message: 46813

Peter,

Are you sure you measured the Rectifier Unit's "PD1, PD2, and SG1" voltage correctly? You show the Rectifier Unit's PD1, PD2, and SG1 voltage as "half" of the Rectifier Unit's SG2 voltage which is +252VDC. There's noting between the Rectifier Unit's SG2 terminal voltage (+252VDC) and the Rectifier Unit's "SG1" and "PD2" terminals that will cause a 50% drop in DC voltage.

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Mike W5RKL

On 1/4/2014 9:35 AM, Peter Ravn wrote:
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> RECTIFIER BOARD IN STAND-BY WITH FINAL TUBES REMOVED
>
> TERMINAL
>
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>
> SG SWITCH OFF
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>
>
> SG SWITCH ON
>
> 210A
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>
>
> +252
>
>
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> +252
>
> 210B
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> +252
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> +252
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> SG1
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> -54
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>
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> +128
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> SG2
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> -110
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> +254
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> PD1
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> -54
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> +128
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> PD2
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> -54
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> +128
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> -108
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> -107
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> TUN
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> -54
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> +128
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> 73
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> *Fra:*TS-520_820_530_830@yahoogroups.com
> [mailto:TS-520_820_530_830@yahoogroups.com] *På vegne af *Mike W5RKL
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> have 52VDC and 0VDC on the SG1 terminal at the same time.
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> 73
> Mike W5RKL
>
>

46814. Re: [TS-520_820_530_830] dial digits switch early on TS820 remote VFO

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-04 11:38:34 UTC
From: Michael Sylvester
Topic: 46806 Message: 46814

I don't know if an external VFO is constructed the same as an internal VFO.....
I bought an internal 820 VFO just to take one apart.
From what I garner here, the most prevalent problem with VFO is the mechanical electrical connection at the back end of the variable capacitor.
I just dismantled the cap and rebuilt it to like new condition. It will go into the next 820 I work on, maybe today.
There was about 1/32" end play from front to back in the cap.
There was a gap between the phosphor bronze spring at the back and the shaft shoulder it should make electrical connection to.
While originally tempered with a strong arch, that went bye bye long ago.

There is a single ball bearing at the back, it appears to have been greased originally. The grease had contaminated the grounding point at the shoulder on the shaft.
I see the same gap and contamination in the VFO of the 820 I'm presently working on (when I have time). It will be pulled and the rebuilt will go in.
Repeated "spraying and praying" removed none of this, in either VFO.
I believe I have solved the variable cap problem for a long period of continued function.

It is a real pain however getting the VFO out and dismantling the internals and taking the cap apart.
Putting it back together is tricky, the shaft bearings being the biggest challenge.
So, if external VFO is the same as internal VFO
"Spray and Pray".

Michael///KD0WSJ

On Friday, January 3, 2014 10:45 AM, "greg.anders@..." <greg.anders@...> wrote:

I wonder if anyone has fixed an issue with an 820 remote VFO where the most significant digits change prematurely when tuning the dial. When I go from 100-200 the digit changes to "2" at about 180 not 200. Anyone seen and fixed this??

Greg

46815. SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: [TS-520_820_530_830] TS830S no bias

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-04 18:24:44 UTC
From: Peter Ravn
Topic: 46257 Message: 46815

Mike,

After I had you answer, I measured the PD1, PD2, and SG1 voltages once again. Miraculously the 50 % drop in DC voltage had disappeared! But my joy was short lived. After I had checked bias in the final unit in TUNE mode with SG SWITCH on and SEND flipped, PD1, PD2, and SG1 voltage were 50 % down as before. RL1? D12?

73

Peter OZ8CTH

Fra: TS-520_820_530_830@yahoogroups.com
[mailto:TS-520_820_530_830@yahoogroups.com] På vegne af Mike W5RKL
Sendt: 4. januar 2014 18:52
Til: TS-520_820_530_830@yahoogroups.com
Emne: Re: SV: SV: SV: SV: SV: SV: SV: SV: SV: [TS-520_820_530_830] TS830S no bias

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On 1/4/2014 9:35 AM, Peter Ravn wrote:

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RECTIFIER BOARD IN STAND-BY WITH FINAL TUBES REMOVED

TERMINAL

SG SWITCH OFF

SG SWITCH ON

210A

+252

+252

210B

+252

+252

SG1

-54

+128

SG2

-110

+254

PD1

-54

+128

PD2

-54

+128

12

12

12

-C

-108

-107

TUN

-54

+128

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Fra: TS-520_820_530_830@yahoogroups.com
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Sendt: 3. januar 2014 23:12
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46816. Re: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: [TS-520_820_530_830] TS830S no bias

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-04 18:49:19 UTC
From: Mike W5RKL
Topic: 46257 Message: 46816

Peter,

If the SG1 and PD2 voltages drop by 50% with the MODE switch set to TUNE, that's what they are suppose to do. That's how the KW hybrids reduce the final amplifier's DC input power by 50% in TUNE mode.

Therefore, if the Rectifier Unit SG1 and PD2 voltages drop 50% with the MODE switch set to TUNE with the transmitter keyed but increases by 50% back to +252VDC with the MODE switch in USB or LSB mode then the voltage reduction you are seeing in TUNE mode is correct. If you remember I said that the screen voltage is "reduced" by 50% in TUNE mode in order to reduce the final amplifier's DC input power by 50%.

Does this make sense? It's important that you understand what is happening with the SG1/PD2 final tube screen voltage between TUNE and USB/LSB modes.

73
Mike W5RKL

On 1/4/2014 12:24 PM, Peter Ravn wrote:
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> *Fra:*TS-520_820_530_830@yahoogroups.com
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> 210A
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> +252
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> 210B
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> SG2
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> PD1
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> at the junction of R15 and R16 is then applied to the Rectifier
> Unit's "TUNE" terminal which is then applied to the MODE switches
> "TUNE" terminal. The TUNE voltage is then applied over the "SG1"
> wire to the Rectifier Unit's "SG1" terminal where it flows through
> L1 and out PD2 to the Final Unit's "SG" terminal.
>
> Here is how the TUNE mode reduces the final tube screen voltage by
> 50%. For example, lets say the 210A screen supply output voltage
> is "+265VDC" and the MODE switch is set to TUNE. The 210A voltage
> is applied to the voltage divider resistors R15 and R16 through
> the Rectifier Unit's relay RL1 resulting in approximately .00236
> amps of current flowing through both R15 and R16 (265 / 112000 =
> .00236). This result in a voltage drop across R15 of approximately
> +132.5VDC (.00236 x 56000 = 132.5) resulting in +132.5VDC at the
> junction of R15 and R16. The "+132.5VDC" is then applied to the
> Rectifier Unit's "TUNE" terminal, then to the MODE switch TUNE
> terminal, through the MODE switch wiper and back through the "SG1"
> wiring to the Rectifier Unit's "SG1" terminal, through L1, out
> PD2, to the Final Unit's "SG" terminal then to the 6146 screens.
> This 50% decrease in screen voltage to the final tube is how the
> DC input power is reduced in TUNE mode. The final tube screen
> voltage is reduced in TUNE mode but not the driver tube's screen
> voltage.
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> The SG switch, when set to "OFF", will energize the Rectifier
> Unit's relay RL1. If the relay does not energize with the SG
> switch set to OFF then check for 12VDC at the AF Unit's "12" terminal.
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> You said you measured 52VDC at the Rectifier Unit's "PD1, PD2, and
> SG1" terminal but then you said you measured 0VDC at "SG1". You
> can't have 52VDC and 0VDC on the SG1 terminal at the same time.
>
> 73
> Mike W5RKL
>
>
>
>
>

>

46817. Re: SV: SV: SV: SV: SV: SV: SV: SV: SV: [TS-520_820_530_830] TS830S no bias

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-04 19:11:08 UTC
From: Mike W5RKL
Topic: 46257 Message: 46817

Subject: Re: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV:
[TS-520_820_530_830] TS830S no bias
Date: Sat, 04 Jan 2014 13:09:19 -0600
From: Mike W5RKL <w5rkl@...>
To: TS-520_820_530_830@yahoogroups.com

Peter,

Do this simple voltage measurement.

Leave the SEND switch DOWN, you do not have to key the transmitter for the following voltage measurement.

Make sure the SG Switch is in the ON position, connect your DC volt meter to the Rectifier Unit's "PD2" terminal and rotate the MODE switch to USB, LSB, and CW modes. Note the DC voltage in all 3 positions of the MODE switch, it should be approximately +252VDC.

Do not disconnect the DC volt meter from the "PD2" terminal. Change the MODE switch to TUNE and you should see the volt meter display a "50%" drop in the "PD2" voltage, dropping to approximately +126VDC. The 50% drop in the "PD2" voltage with the MODE switch set to TUNE is how KW reduces the final amplifier's DC input power in TUNE mode.

73
Mike W5RKL

On 1/4/2014 12:49 PM, Mike W5RKL wrote:
>
> Peter,
>
> If the SG1 and PD2 voltages drop by 50% with the MODE switch set to
> TUNE, that's what they are suppose to do. That's how the KW hybrids
> reduce the final amplifier's DC input power by 50% in TUNE mode.
>
> Therefore, if the Rectifier Unit SG1 and PD2 voltages drop 50% with
> the MODE switch set to TUNE with the transmitter keyed but increases
> by 50% back to +252VDC with the MODE switch in USB or LSB mode then
> the voltage reduction you are seeing in TUNE mode is correct. If you
> remember I said that the screen voltage is "reduced" by 50% in TUNE
> mode in order to reduce the final amplifier's DC input power by 50%.
>
> Does this make sense? It's important that you understand what is
> happening with the SG1/PD2 final tube screen voltage between TUNE and
> USB/LSB modes.

>
> 73
> Mike W5RKL
>
>
> On 1/4/2014 12:24 PM, Peter Ravn wrote:
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>> Mike,
>>
>> After I had you answer, I measured the PD1, PD2, and SG1 voltages
>> once again. Miraculously the 50 % drop in DC voltage had disappeared!
>> But my joy was short lived. After I had checked bias in the final
>> unit in TUNE mode with SG SWITCH on and SEND flipped, PD1, PD2, and
>> SG1 voltage were 50 % down as before. RL1? D12?
>>
>> 73
>>
>> Peter OZ8CTH
>>
>> *Fra:*TS-520_820_530_830@yahoogroups.com
>> [mailto:TS-520_820_530_830@yahoogroups.com] *P? vegne af *Mike W5RKL
>> *Sendt:* 4. januar 2014 18:52
>> *Til:* TS-520_820_530_830@yahoogroups.com
>> *Emne:* Re: SV: SV: SV: SV: SV: SV: SV: SV: SV: [TS-520_820_530_830]
>> TS830S no bias
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>>
>> Peter,
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>> voltage correctly? You show the Rectifier Unit's PD1, PD2, and SG1
>> voltage as "half" of the Rectifier Unit's SG2 voltage which is
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>> voltage (+252VDC) and the Rectifier Unit's "SG1" and "PD2" terminals
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>> Mike,
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>> On power up the RL1 relay on the rectifier board is being
>> energized. With the SG switch set to ON, RL1 goes back to the
>> position before power up.

```
>>
>> RECTIFIER BOARD IN STAND-BY WITH FINAL TUBES REMOVED
>>
>> TERMINAL
>>
>>
>>
>> SG SWITCH OFF
>>
>>
>>
>> SG SWITCH ON
>>
>> 210A
>>
>>
>>
>> +252
>>
>>
>>
>> +252
>>
>> 210B
>>
>>
>>
>> +252
>>
>>
>>
>> +252
>>
>> SG1
>>
>>
>>
>> -54
>>
>>
>>
>> +128
>>
>> SG2
>>
>>
>>
>> -110
>>
>>
```

```
>>
>> +254
>>
>> PD1
>>
>>
>>
>> -54
>>
>>
>>
>> +128
>>
>> PD2
>>
>>
>>
>> -54
>>
>>
>>
>> +128
>>
>> 12
>>
>>
>>
>> 12
>>
>>
>>
>> 12
>>
>> -C
>>
>>
>>
>> -108
>>
>>
>>
>> -107
>>
>> TUN
>>
>>
>>
>> -54
>>
>>
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>>
>> +128
>>
>> 73
>>
>> Peter OZ8CTH
>>
>> *Fra:*TS-520_820_530_830@yahoogroups.com
>> <mailto:TS-520_820_530_830@yahoogroups.com>
>> [mailto:TS-520_820_530_830@yahoogroups.com] *På vegne af *Mike W5RKL
>> *Sendt:* 3. januar 2014 23:12
>> *Til:* TS-520_820_530_830@yahoogroups.com
>> <mailto:TS-520_820_530_830@yahoogroups.com>
>> *Emne:* Re: SV: SV: SV: SV: SV: SV: SV: SV: [TS-520_820_530_830]
>> TS830S no bias
>>
>>
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>> Peter,
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>> I don't want to interfere with you and Terry, just thought I
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>> First, the Rectifier Unit's "210A" terminal is the driver and
>> both final tube screen power supply "output". The Rectifier
>> Unit's "210B" is not the screen supply's output, it's the output
>> of the screen supply's "rectifier" voltage that is applied to the
>> capacitive input filter on the IF unit. The Rectifier Unit's
>> "210A" and "210B" terminals can be confusing until you trace the
>> wiring on the schematic to the IF Unit's plug 14 pins 1 and 3 and
>> back to the Rectifier Unit. The driver and both final tube screen
>> supply is a half wave rectifier feeding a capacitive input PI
>> filter. The rectifier is D6, C181 (22ufd 350VDC) and C180 (22ufd
>> 350VDC) radial lead capacitors, with R11, 470 ohm resistor
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>> simple none regulated half wave DC screen supply for the driver
>> and both final tubes.
>>
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>> voltage at the junction of R15 and R16 is then applied to the
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>> You can't have 52VDC and 0VDC on the SG1 terminal at the same time.
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>> 73
>> Mike W5RKL
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>

46818. SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: [TS-520_820_530_830] TS830S no bias

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-04 19:40:47 UTC
From: Peter Ravn
Topic: 46257 Message: 46818

Peter,

You misunderstood me. What I said was that SG1 and PD2 voltages on the rectifier unit were + 252 VDC with SG SWITCH on. But after having been in TUNE mode voltages didn□t return to +252 VDC, but to +128VDC with SG SWTICH on and to -54 VDC with SG SWITCH off, i.e. a drop of 50 % in STAND BY mode. This is where the radio on power up.

73

Peter OZ8CTH

Fra: TS-520_820_530_830@yahoogroups.com
[mailto:TS-520_820_530_830@...m] På vegne af Mike W5RKL
Sendt: 4. januar 2014 19:49
Til: TS-520_820_530_830@yahoogroups.com
Emne: Re: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: [TS-520_820_530_830] TS830S no bias

Peter,

If the SG1 and PD2 voltages drop by 50% with the MODE switch set to TUNE, that's what they are suppose to do. That's how the KW hybrids reduce the final amplifier's DC input power by 50% in TUNE mode.

Therefore, if the Rectifier Unit SG1 and PD2 voltages drop 50% with the MODE switch set to TUNE with the transmitter keyed but increases by 50% back to +252VDC with the MODE switch in USB or LSB mode then the voltage reduction you are seeing in TUNE mode is correct. If you remember I said that the screen voltage is "reduced" by 50% in TUNE mode in order to reduce the final amplifier's DC input power by 50%.

Does this make sense? It's important that you understand what is happening with the SG1/PD2 final tube screen voltage between TUNE and USB/LSB modes.

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Peter OZ8CTH

Fra: TS-520_820_530_830@yahoogroups.com
[mailto:TS-520_820_530_830@yahoogroups.com] På vegne af Mike W5RKL
Sendt: 4. januar 2014 18:52
Til: TS-520_820_530_830@yahoogroups.com
Emne: Re: SV: SV: SV: SV: SV: SV: SV: SV: SV: [TS-520_820_530_830] TS830S no bias

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Mike,

On power up the RL1 relay on the rectifier board is being energized. With the SG switch set to ON, RL1 goes back to the position before power up.

RECTIFIER BOARD IN STAND-BY WITH FINAL TUBES REMOVED

TERMINAL

SG SWITCH OFF

SG SWITCH ON

210A

+252

+252

210B

+252

+252

SG1

-54

+128

SG2

-110

+254

PD1

-54

+128

PD2

-54

+128

12

12

12

-C

-108

-107

TUN

-54

+128

73

Peter OZ8CTH

Fra: TS-520_820_530_830@yahoogroups.com
[mailto:TS-520_820_530_830@yahoogroups.com] PÃ¥ vegne af Mike W5RKL
Sendt: 3. januar 2014 23:12
Til: TS-520_820_530_830@yahoogroups.com
Emne: Re: SV: SV: SV: SV: SV: SV: SV: SV: [TS-520_820_530_830] TS830S no bias

Peter,

I don't want to interfere with you and Terry, just thought I would say a few words about your voltage measurements.

First, the Rectifier Unit's "210A" terminal is the driver and both final tube screen power supply "output". The Rectifier Unit's "210B" is not the screen supply's output, it's the output of the screen supply's "rectifier"

voltage that is applied to the capacitive input filter on the IF unit. The Rectifier Unit's "210A" and "210B" terminals can be confusing until you trace the wiring on the schematic to the IF Unit's plug 14 pins 1 and 3 and back to the Rectifier Unit. The driver and both final tube screen supply is a half wave rectifier feeding a capacitive input PI filter. The rectifier is D6, C181 (22ufd 350VDC) and C180 (22ufd 350VDC) radial lead capacitors, with R11, 470 ohm resistor connected between C180 and C181's positive terminals. It's a very simple none regulated half wave DC screen supply for the driver and both final tubes.

Next, with the MODE switch set to TUNE, the "210A" output voltage is applied to the Rectifier Unit's relay "RL1" then to the voltage divider resistors R15 and R16, both are 56K 1/2 watt. The voltage at the junction of R15 and R16 is then applied to the Rectifier Unit's "TUNE" terminal which is then applied to the MODE switches "TUNE" terminal. The TUNE voltage is then applied over the "SG1" wire to the Rectifier Unit's "SG1" terminal where it flows through L1 and out PD2 to the Final Unit's "SG" terminal.

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46819. Re: : [TS-520_820_530_830] TS830S no bias

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-04 19:46:36 UTC
From: Joe - W7RKN
Topic: 46819 Message: 46819

----- Original Message -----
From: Peter Ravn
To: TS-520_820_530_830@yahoogroups.com
Sent: Saturday, January 04, 2014 11:40 AM
Subject: [TS-520_820_530_830] TS830S no bias

Peter,

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Peter OZ8CTH

Fra: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com] På vegne af Mike W5RKL
Sendt: 4. januar 2014 19:49
Til: TS-520_820_530_830@yahoogroups.com
Emne: Re: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: [TS-520_820_530_830] TS830S no bias

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Fra: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com] På vegne af Mike W5RKL
Sendt: 4. januar 2014 18:52
Til: TS-520_820_530_830@yahoogroups.com
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RECTIFIER BOARD IN STAND-BY WITH FINAL TUBES REMOVED

TERMINAL
SG SWITCH OFF
SG SWITCH ON

210A
+252
+252

210B
+252
+252

SG1
-54
+128

SG2
-110
+254

PD1
-54
+128

PD2
-54
+128

12
12
12

-C
-108
-107

TUN
-54
+128

73

Peter OZ8CTH

Fra: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com] PÃ¥ vegne af Mike W5RKL
Sendt: 3. januar 2014 23:12
Til: TS-520_820_530_830@yahoogroups.com
Emne: Re: SV: SV: SV: SV: SV: SV: SV: SV: [TS-520_820_530_830] TS830S no bias

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46820. Re: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: [TS-520_820_530_830] TS830S no bias

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-04 20:23:46 UTC
From: W5RKL
Topic: 46257 Message: 46820

Peter,

This is a shot in the dark because i can't see anything that would cause the SG1 voltage not to return to +252VDC when moving the MODE switch from TUNE to USB, LSB, or any of the CW positions. There's nothing I can see that can cause this problem.

Recreate the problem where the SG1 voltage is +128VDC in USB, LSB, or any CW position. Once that happens, leave the volt meter connected to the SG1 terminal then tap on the Rectifier Unit's RL1 relay. If the voltage returns to +252VDC then the Rectifier Unit's RL1 relay is the source of your problem.

73
Mike W5RKL

On 1/4/2014 1:40 PM, Peter Ravn wrote:
>
> Peter,
>
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> rectifier unit were + 252 VDC with SG SWITCH on. But after having been
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> Peter OZ8CTH
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> *Fra:*TS-520_820_530_830@yahoogroups.com
> [mailto:TS-520_820_530_830@yahoogroups.com] *P? vegne af *Mike W5RKL
> *Sendt:* 4. januar 2014 19:49
> *Til:* TS-520_820_530_830@yahoogroups.com
> *Emne:* Re: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV:
> [TS-520_820_530_830] TS830S no bias
>
>
>
> Peter,
>
> If the SG1 and PD2 voltages drop by 50% with the MODE switch set to
> TUNE, that's what they are suppose to do. That's how the KW hybrids
> reduce the final amplifier's DC input power by 50% in TUNE mode.
>

> Therefore, if the Rectifier Unit SG1 and PD2 voltages drop 50% with
> the MODE switch set to TUNE with the transmitter keyed but increases
> by 50% back to +252VDC with the MODE switch in USB or LSB mode then
> the voltage reduction you are seeing in TUNE mode is correct. If you
> remember I said that the screen voltage is "reduced" by 50% in TUNE
> mode in order to reduce the final amplifier's DC input power by 50%.
>
> Does this make sense? It's important that you understand what is
> happening with the SG1/PD2 final tube screen voltage between TUNE and
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>
> 73
> Mike W5RKL
>
> On 1/4/2014 12:24 PM, Peter Ravn wrote:
>
> Mike,
>
> After I had you answer, I measured the PD1, PD2, and SG1 voltages
> once again. Miraculously the 50 % drop in DC voltage had
> disappeared! But my joy was short lived. After I had checked bias
> in the final unit in TUNE mode with SG SWITCH on and SEND flipped,
> PD1, PD2, and SG1 voltage were 50 % down as before. RL1? D12?
>
> 73
>
> Peter OZ8CTH
>
> *Fra:*TS-520_820_530_830@yahoogroups.com
> <mailto:TS-520_820_530_830@yahoogroups.com>
> [mailto:TS-520_820_530_830@yahoogroups.com] *P? vegne af *Mike W5RKL
> *Sendt:* 4. januar 2014 18:52
> *Til:* TS-520_820_530_830@yahoogroups.com
> <mailto:TS-520_820_530_830@yahoogroups.com>
> *Emne:* Re: SV: SV: SV: SV: SV: SV: SV: SV: SV:
> [TS-520_820_530_830] TS830S no bias
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> voltage (+252VDC) and the Rectifier Unit's "SG1" and "PD2"
> terminals that will cause a 50% drop in DC voltage.
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> Mike W5RKL
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>
> RECTIFIER BOARD IN STAND-BY WITH FINAL TUBES REMOVED
>
> TERMINAL
>
>
>
> SG SWITCH OFF
>
>
>
> SG SWITCH ON
>
> 210A
>
>
>
> +252
>
>
>
> +252
>
> 210B
>
>
>
> +252
>
>
>
> +252
>
> SG1
>
>
>
> -54

```
>
>
>
> +128
>
> SG2
>
>
>
> -110
>
>
>
> +254
>
> PD1
>
>
>
> -54
>
>
>
> +128
>
> PD2
>
>
>
> -54
>
>
>
> +128
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> 12
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> 12
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> 12
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> -C
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> -108
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>
>
> -107
>
> TUN
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>
> -54
>
>
>
> +128
>
> 73
>
> Peter OZ8CTH
>
> *Fra:*TS-520_820_530_830@yahoogroups.com
> <mailto:TS-520_820_530_830@yahoogroups.com>
> [mailto:TS-520_820_530_830@yahoogroups.com] *På vegne af
> *Mike W5RKL
> *Sendt:* 3. januar 2014 23:12
> *Til:* TS-520_820_530_830@yahoogroups.com
> <mailto:TS-520_820_530_830@yahoogroups.com>
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> Peter,
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> I don't want to interfere with you and Terry, just thought I
> would say a few words about your voltage measurements.
>
> First, the Rectifier Unit's "210A" terminal is the driver and
> both final tube screen power supply "output". The Rectifier
> Unit's "210B" is not the screen supply's output, it's the
> output of the screen supply's "rectifier" voltage that is
> applied to the capacitive input filter on the IF unit. The
> Rectifier Unit's "210A" and "210B" terminals can be confusing
> until you trace the wiring on the schematic to the IF Unit's
> plug 14 pins 1 and 3 and back to the Rectifier Unit. The
> driver and both final tube screen supply is a half wave
> rectifier feeding a capacitive input PI filter. The rectifier
> is D6, C181 (22ufd 350VDC) and C180 (22ufd 350VDC) radial lead
> capacitors, with R11, 470 ohm resistor connected between C180
> and C181's positive terminals. It's a very simple none
> regulated half wave DC screen supply for the driver and both

> final tubes.
>
> Next, with the MODE switch set to TUNE, the "210A" output
> voltage is applied to the Rectifier Unit's relay "RL1" then to
> the voltage divider resistors R15 and R16, both are 56K 1/2
> watt. The voltage at the junction of R15 and R16 is then
> applied to the Rectifier Unit's "TUNE" terminal which is then
> applied to the MODE switches "TUNE" terminal. The TUNE voltage
> is then applied over the "SG1" wire to the Rectifier Unit's
> "SG1" terminal where it flows through L1 and out PD2 to the
> Final Unit's "SG" terminal.
>
> Here is how the TUNE mode reduces the final tube screen
> voltage by 50%. For example, lets say the 210A screen supply
> output voltage is "+265VDC" and the MODE switch is set to
> TUNE. The 210A voltage is applied to the voltage divider
> resistors R15 and R16 through the Rectifier Unit's relay RL1
> resulting in approximately .00236 amps of current flowing
> through both R15 and R16 (265 / 112000 = .00236). This result
> in a voltage drop across R15 of approximately +132.5VDC
> (.00236 x 56000 = 132.5) resulting in +132.5VDC at the
> junction of R15 and R16. The "+132.5VDC" is then applied to
> the Rectifier Unit's "TUNE" terminal, then to the MODE switch
> TUNE terminal, through the MODE switch wiper and back through
> the "SG1" wiring to the Rectifier Unit's "SG1" terminal,
> through L1, out PD2, to the Final Unit's "SG" terminal then to
> the 6146 screens. This 50% decrease in screen voltage to the
> final tube is how the DC input power is reduced in TUNE mode.
> The final tube screen voltage is reduced in TUNE mode but not
> the driver tube's screen voltage.
>
> The SG switch, when set to "OFF", will energize the Rectifier
> Unit's relay RL1. If the relay does not energize with the SG
> switch set to OFF then check for 12VDC at the AF Unit's "12"
> terminal.
>
> You said you measured 52VDC at the Rectifier Unit's "PD1, PD2,
> and SG1" terminal but then you said you measured 0VDC at
> "SG1". You can't have 52VDC and 0VDC on the SG1 terminal at
> the same time.
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> 73
> Mike W5RKL
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This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

46821. Re: [TS-520_820_530_830] dial digits switch early on TS820 remote VFO

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-04 21:05:02 UTC
From: Michael Sylvester
Topic: 46806 Message: 46821

Finished putting my rebuilt VFO back together.
That spring is now clean, coated with Corrosion X and has enough bend to it to "SNAP" back when I push on it with one of my butchered dental tools. Bearings a lubed with fine white lithium grease.
All contact surfaces are thoroughly stainless brush cleaned and scuffed up.
Should give many years of trouble free use. I'm hoping that's all that was wrong with the used 820 VFO I bought. A precursor check of diodes on it's board looks like it's OK.
Fingers crossed.
Also just finished my "through hole solder connection" repair.
Not so difficult as just tedious.
My biggest obstacle was getting the old solder out. While solder wick works, it only works so well.....so I tried cleaning the holes to get them big enough with a small pin vise and a .04" drill bit.
Works OK but I pushed one foil loose on the other side.
I was debating getting out one of my Foredom flex shaft tools, I have both the cheaper and the expensive models. Didn't want to spend the 20 minutes to dig that out and set it up.

I'll be putting the rebuilt VFO and the solder repaired board into a 820S later, maybe today, maybe not. Think maybe I'll do some code for awhile, my speed needs work.
Getting the itch to get all the bugs out of my 830S. I think I'll pull her out later. Also just got a new good looking base for my like new J. H. Brunkle & Co. brass key my GF gave me for Christmas. Need to find some appropriate brass screws and make up a cord for it.
You'd think it was just made. Still has the original varnish dip on it!
She found it in an antique store, $10.....I'd like to see the fight over one on eBay!!
Makes me want to use only hand key, but I still have my Novice key from 42 years ago sitting here, I think she'd get jealous.
OK, I'm waffling.
Have a Super new year gentlemen.
Time for a break!!
Michael///KD0WSJ

On Saturday, January 4, 2014 12:19 PM, Michael Sylvester wrote:

I don't know if an external VFO is constructed the same as an internal VFO.....
I bought an internal 820 VFO just to take one apart.
From what I garner here, the most prevalent problem with VFO is the mechanical electrical connection at the back end of the variable capacitor.
I just dismantled the cap and rebuilt it to like new condition. It will go into the next 820 I work on, maybe today.
There was about 1/32" end play from front to back in the cap.
There was a gap between the phosphor bronze spring at the back and the shaft shoulder it should make electrical connection to.
While originally tempered with a strong arch, that went bye bye long ago.

There is a single ball bearing at the back, it appears to have been greased originally. The grease had contaminated the grounding point at the shoulder on the shaft.
I see the same gap and contamination in the VFO of the 820 I'm presently working on (when I have time). It will be pulled and the rebuilt will go in.
Repeated "spraying and praying" removed none of this, in either VFO.
I believe I have solved the variable cap problem for a long period of continued function.

It is a real pain however getting the VFO out and dismantling the internals and taking the cap apart.
Putting it back together is tricky, the shaft bearings being the biggest challenge.
So, if external VFO is the same as internal VFO
"Spray and Pray".

Michael///KD0WSJ

The above msgs were edited for content by WB7UQU-Group Co-owner

46822. RE: Reports of poor audio on 830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-04 22:24:01 UTC
From: <wagstw46@...>
Topic: 46811 Message: 46822

Do you have the Service Manual? If not need to down load it. I dont know what Side band you are talking about, but you have two carrier oscillators that need to be adjusted. These oscillators are located on the PLL board and you can access the trimmer capacitors thru two holes in the bottom cover. You can adjust these for a more bass sound or a more communications audio presence. It is sort of a user preference adjustment. The trimmers are sensitive and can drift off over time. TC-2 is adjusted for LSB and TC-3 is adjusted for USB.

Remember where ever you adjust them in Rx mode is how you will sound in Tx mode and vice versa. The Service Manual describes the adjustment under Step 30 SSB Frequency Response. You need an audio oscillator, AF VTVM to measure accurate audio oscillator output level, a wattmeter, and a dummy load to perform this method. You are adjusting TC-2 and TC-3 for 3dB roll off (1/2 half power) at 300hz and 2700 hz. Some do this at 400 hz and 2600 hz.

If you do not have this test gear several other ways to adjust:

1. Use the Marker signal/S-meter method described in the maintenance section of the Survival guide. Step 8.4 on Page 27. This works pretty well. Make sure you place AGC in fast position.

2. Download Spectro-gram audio spectrum analyzer soft ware. This works best if you have a diode noise generator, but can be done by just tuning to a clear frequency.

Make sure the IF shift is in center position for any method you use.

Some people actually just adjust each trimmer by ear and listen to self on Moni.

If adjusting the Carrier Oscillator trimmers dont give you a more bass response come back for more help.

Terry K9TW

46823. RE: Reports of poor audio on 830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-04 22:36:51 UTC
From: <wagstw46@...>
Topic: 46811 Message: 46823

I forgot to mention seldom use the Processor unless chasing some DX and trying to break a pile up running barefoot and never run mic gain more than 1200 on any mic I own.

If I run the processor my mic gain using a Shure 444D is no more than 1100 (#4) and Processor Compression level no more than 1100 and I never use more than approx 10-12 db of compression. With a MC-50 or MC-60 can run mic gain up to 1200 to 1300 but no more.

This all depends on how well your radio has been aligned. There is a transmit ALC alignment and a Speech Processor alignment. May be ok but dont know how many fingers been in the rig.

I would not be messing with the Processor or changing Mic impedance until I had aligned both Carrier Oscillators.

Terry K9TW

46824. Re: [TS-520_820_530_830] dial digits switch early on TS820 remote VFO

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-05 02:59:43 UTC
From: Ken MacLeod
Topic: 46806 Message: 46824

If you have problems getting the old solder out of the through holes, apply new solder to the hole then remove the solder with wick or solder sucker. The old solder should now come out much easier.
Ken - KI5PM

----- Original Message -----
From: Michael Sylvester
To: TS-520_820_530_830@yahoogroups.com
Sent: Saturday, January 04, 2014 3:05 PM
Subject: Re: [TS-520_820_530_830] dial digits switch early on TS820 remote VFO

Finished putting my rebuilt VFO back together.
That spring is now clean, coated with Corrosion X and has enough bend to it to "SNAP" back when I push on it with one of my butchered dental tools. Bearings a lubed with fine white lithium grease.
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"Spray and Pray".

Michael///KD0WSJ

The above msgs were edited for content by WB7UQU-Group Co-owner

46825. Re: [TS-520_820_530_830] Ts 520.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-05 10:10:51 UTC
From: Ron
Topic: 46785 Message: 46825

Can anyone tell me what is the function of the af voltage Pot. On these radios

Ron KK4PWF

On Jan 2, 2014, at 9:06 AM, Ron <bozo231@...> wrote:

>
>
> Lol Terry u love it an u know it !!!! But now I have the whole story for future ref. and a black marker !!! Lol
>
> Ron KK4PWF
>
> On Jan 2, 2014, at 9:14 AM, <wagstw46@...> wrote:
>
>> Ron
>>
>>
>>
>> Your question was framed how to align the hanging board wafer switches to the bandswitch shaft. Could have saved some keystrokes if you had said you had the hanging boards all aligned and just needed to know how to couple its shaft to the S5 switch shaft.
>>
>>
>>
>> You like to make me work!
>>
>>
>>
>> Terry
>>
>
>
>

46826. SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: [TS-520_820_530_830] TS830S no bias

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-05 11:44:38 UTC
From: Peter Ravn
Topic: 46257 Message: 46826

Mike,

I made a mistake by measuring the SG1 and PD2 voltages in TUNE mode and not in CW, USB or LSB mode. That□s the result of working late under stress. As far as voltages is concerned, things now work as they should do.

This morning I installed the 6146B set that turned red due to thermal runaway. Bias was adjusted to 60 ma, and in TUNE mode with the meter on ALC I could peak DRIVE, but in TUNE mode with the meter on RF, the needle didn□t move at all when I turned the PLATE control. Therefore I expected the old 6146□s to have gone bad because of the thermal runaway event.

Then I tried the new 6146W set that arced over when I first installed them. The same happened as before. When setting the bias in USB/LSB mode to 60 ma, there was a flash. The only difference was that the cathode resistors did not open due the K9TW cathode resistor protection modification. Thank you, Terry! The diodes did their job and survived the arcing over.

Finally I tried a completely new set 6146B with exactly the same result as the first one mentioned.

Preliminary conclusion: The old red 6146B set seems to work, though possibly with reduced power. The new 6146W set is definitely bad and will be returned to the seller.

But why no PLATE reading on the panel meter in TUNE mode with the meter on RF and SEND flipped? I replaced the 12BY7A driver tube, but it had no effect. Can the first arcing event have caused serious damage somewhere else? I have done the final cage repair kit mod, so the problem must be somewhere else.

73

Peter OZ8CTH

Fra: TS-520_820_530_830@yahoogroups.com
[mailto:TS-520_820_530_830@yahoogroups.com] På vegne af W5RKL
Sendt: 4. januar 2014 21:24
Til: TS-520_820_530_830@yahoogroups.com
Emne: Re: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: [TS-520_820_530_830] TS830S no bias

Peter,

This is a shot in the dark because i can't see anything that would cause the SG1 voltage not to return to +252VDC when moving the MODE switch from TUNE

to USB, LSB, or any of the CW positions. There's nothing I can see that can cause this problem.

Recreate the problem where the SG1 voltage is +128VDC in USB, LSB, or any CW position. Once that happens, leave the volt meter connected to the SG1 terminal then tap on the Rectifier Unit's RL1 relay. If the voltage returns to +252VDC then the Rectifier Unit's RL1 relay is the source of your problem.

73
Mike W5RKL

On 1/4/2014 1:40 PM, Peter Ravn wrote:

Peter,

You misunderstood me. What I said was that SG1 and PD2 voltages on the rectifier unit were + 252 VDC with SG SWITCH on. But after having been in TUNE mode voltages didn□t return to +252 VDC, but to +128VDC with SG SWTICH on and to -54 VDC with SG SWITCH off, i.e. a drop of 50 % in STAND BY mode. This is where the radio on power up.

73

Peter OZ8CTH

Fra: TS-520_820_530_830@yahoogroups.com
[mailto:TS-520_820_530_830@yahoogroups.com] På vegne af Mike W5RKL
Sendt: 4. januar 2014 19:49
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Peter,

If the SG1 and PD2 voltages drop by 50% with the MODE switch set to TUNE, that's what they are suppose to do. That's how the KW hybrids reduce the final amplifier's DC input power by 50% in TUNE mode.

Therefore, if the Rectifier Unit SG1 and PD2 voltages drop 50% with the MODE switch set to TUNE with the transmitter keyed but increases by 50% back to +252VDC with the MODE switch in USB or LSB mode then the voltage reduction you are seeing in TUNE mode is correct. If you remember I said that the screen voltage is "reduced" by 50% in TUNE mode in order to reduce the final amplifier's DC input power by 50%.

Does this make sense? It's important that you understand what is happening with the SG1/PD2 final tube screen voltage between TUNE and USB/LSB modes.

73
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On 1/4/2014 12:24 PM, Peter Ravn wrote:

Mike,

After I had you answer, I measured the PD1, PD2, and SG1 voltages once again. Miraculously the 50 % drop in DC voltage had disappeared! But my joy was short lived. After I had checked bias in the final unit in TUNE mode with SG SWITCH on and SEND flipped, PD1, PD2, and SG1 voltage were 50 % down as before. RL1? D12?

73

Peter OZ8CTH

Fra: TS-520_820_530_830@yahoogroups.com
[mailto:TS-520_820_530_830@yahoogroups.com] På vegne af Mike W5RKL
Sendt: 4. januar 2014 18:52
Til: TS-520_820_530_830@yahoogroups.com
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Peter,

Are you sure you measured the Rectifier Unit's "PD1, PD2, and SG1" voltage correctly? You show the Rectifier Unit's PD1, PD2, and SG1 voltage as "half" of the Rectifier Unit's SG2 voltage which is +252VDC. There's noting between the Rectifier Unit's SG2 terminal voltage (+252VDC) and the Rectifier Unit's "SG1" and "PD2" terminals that will cause a 50% drop in DC voltage.

73
Mike W5RKL

On 1/4/2014 9:35 AM, Peter Ravn wrote:

Mike,

On power up the RL1 relay on the rectifier board is being energized. With the SG switch set to ON, RL1 goes back to the position before power up.

RECTIFIER BOARD IN STAND-BY WITH FINAL TUBES REMOVED

TERMINAL

SG SWITCH OFF

SG SWITCH ON

210A

+252

+252

210B

+252

+252

SG1

-54

+128

SG2

-110

+254

PD1

-54

+128

PD2

-54

+128

12

12

12

-C

-108

-107

TUN

-54

+128

73

Peter OZ8CTH

Fra: TS-520_820_530_830@yahoogroups.com
[mailto:TS-520_820_530_830@yahoogroups.com] PÃ¥ vegne af Mike W5RKL
Sendt: 3. januar 2014 23:12
Til: TS-520_820_530_830@yahoogroups.com
Emne: Re: SV: SV: SV: SV: SV: SV: SV: SV: [TS-520_820_530_830] TS830S no
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First, the Rectifier Unit's "210A" terminal is the driver and both final tube screen power supply "output". The Rectifier Unit's "210B" is not the screen supply's output, it's the output of the screen supply's "rectifier" voltage that is applied to the capacitive input filter on the IF unit. The Rectifier Unit's "210A" and "210B" terminals can be confusing until you trace the wiring on the schematic to the IF Unit's plug 14 pins 1 and 3 and back to the Rectifier Unit. The driver and both final tube screen supply is a half wave rectifier feeding a capacitive input PI filter. The rectifier is D6, C181 (22ufd 350VDC) and C180 (22ufd 350VDC) radial lead capacitors, with R11, 470 ohm resistor connected between C180 and C181's positive terminals. It's a very simple none regulated half wave DC screen supply for the driver and both final tubes.

Next, with the MODE switch set to TUNE, the "210A" output voltage is applied to the Rectifier Unit's relay "RL1" then to the voltage divider resistors R15 and R16, both are 56K 1/2 watt. The voltage at the junction of R15 and R16 is then applied to the Rectifier Unit's "TUNE" terminal which is then applied to the MODE switches "TUNE" terminal. The TUNE voltage is then applied over the "SG1" wire to the Rectifier Unit's "SG1" terminal where it flows through L1 and out PD2 to the Final Unit's "SG" terminal.

Here is how the TUNE mode reduces the final tube screen voltage by 50%. For example, lets say the 210A screen supply output voltage is "+265VDC" and the MODE switch is set to TUNE. The 210A voltage is applied to the voltage divider resistors R15 and R16 through the Rectifier Unit's relay RL1 resulting in approximately .00236 amps of current flowing through both R15 and R16 (265 / 112000 = .00236). This result in a voltage drop across R15 of approximately +132.5VDC (.00236 x 56000 = 132.5) resulting in +132.5VDC at the junction of R15 and R16. The "+132.5VDC" is then applied to the Rectifier Unit's "TUNE" terminal, then to the MODE switch TUNE terminal, through the MODE switch wiper and back through the "SG1" wiring to the Rectifier Unit's "SG1" terminal, through L1, out PD2, to the Final Unit's "SG" terminal then to the 6146 screens. This 50% decrease in screen voltage to the final tube is how the DC input power is reduced in TUNE mode. The final tube screen voltage is reduced in TUNE mode but not the driver tube's screen voltage.

The SG switch, when set to "OFF", will energize the Rectifier Unit's relay RL1. If the relay does not energize with the SG switch set to OFF then check for 12VDC at the AF Unit's "12" terminal.

You said you measured 52VDC at the Rectifier Unit's "PD1, PD2, and SG1" terminal but then you said you measured 0VDC at "SG1". You can't have 52VDC and 0VDC on the SG1 terminal at the same time.

73
Mike W5RKL

<http://www.avast.com/>

This email is free from viruses and malware because avast! Antivirus
<http://www.avast.com/> protection is active.

46827. Re: [TS-520_820_530_830] Ts 520.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-05 12:21:19 UTC
From: <wagstw46@...>
Topic: 46785 Message: 46827

Ron

Go to the Schematic to identify its function.

All pots are labeled as "VR" such as VR-1 or VR-3.

If it is an off board pot it will have the VR designator along with the function name beside it. For example CAR LEVEL is VR-2.

Trim pots on the boards do not have the function name only the VR designator and ohmic value. For example the S-meter span pot on the IF board is VR-1 10k.

I know of no pot called or labeled the "AF Voltage" pot? AF means Audio Frequency and the only pots I am familiar with related to the AF board are the AF gain (speaker volume) and the Side Tone Osc volume.

Terry K9TW

46828. Re: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: [TS-520_820_530_830] TS830S no bias

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-05 13:13:08 UTC
From: Mike W5RKL
Topic: 46257 Message: 46828

Peter,

That's good and it settles a few questions that kept puzzling me. For safety sake, never work on a radio when you are tired, you can make some serious mistakes that can harm you.

You said you can peak the drive, good ALC indication in TUNE mode, with the 6146Bs installed so, for now, that eliminates the driver tube. The symptoms did not change by replacing the driver tube. Always look at the meter indications and the symptoms before changing any component or tube. If there is plenty of drive indicating strong ALC indication then the driver tube is fine and no need to replace it.

Have you checked the rear panel's RF VOLT pot setting? The RF VOLT pot controls the RF indication with the meter switch set to RF. There is no meter scale for the RF meter switch setting. The RF meter switch setting displays "relative" output and there is no meter scale for the RF meter switch setting, simply follow the RF VOLT pot setting instructions in the operator's manual.

What is the IP meter indicating when the transmitter's adjusted for maximum power output?

What is the HV meter indicating when the transmitter's adjusted for maximum power output?

You should also measure the final tube screen and cathode voltages when the transmitter's adjusted for maximum power output.

Lets assume the cathode resistance is approximate 5 ohms and the IP meter is indicating 225ma, the final tube cathode voltage, measured at pin 1 of the final tube socket, should be approximately +1.125VDC. The final tube's screen voltage, measured at the final unit's "SG" terminal, should drop from +252VDC down to approximately +210VDC. The HV should drop from approximately +900VDC down to approximately +825VDC. Measuring the final tube's screen, cathode, and looking at the HV meter indication with the 830 keyed in CW mode (CW key removed from the rear panel CW socket) will tell you a lot of what's happening in the final amplifier. That's why it's important to check these voltages in both standby and transmit.

If the 6146Ws are still arcing, throw them away so you don't accidentally put them in by mistake in the future.

73
Mike W5RKL

On 1/5/2014 5:44 AM, Peter Ravn wrote:
>
> Mike,
>
> I made a mistake by measuring the SG1 and PD2 voltages in TUNE mode
> and not in CW, USB or LSB mode. That's the result of working late
> under stress. As far as voltages is concerned, things now work as they
> should do.
>
> This morning I installed the 6146B set that turned red due to thermal
> runaway. Bias was adjusted to 60 ma, and in TUNE mode with the meter
> on ALC I could peak DRIVE, but in TUNE mode with the meter on RF, the
> needle didn't move at all when I turned the PLATE control. Therefore I
> expected the old 6146's to have gone bad because of the thermal
> runaway event.
>
> Then I tried the new 6146W set that arced over when I first installed
> them. The same happened as before. When setting the bias in USB/LSB
> mode to 60 ma, there was a flash. The only difference was that the
> cathode resistors did not open due the K9TW cathode resistor
> protection modification. Thank you, Terry! The diodes did their job
> and survived the arcing over.
>
> Finally I tried a completely new set 6146B with exactly the same
> result as the first one mentioned.
>
> Preliminary conclusion: The old red 6146B set seems to work, though
> possibly with reduced power. The new 6146W set is definitely bad and
> will be returned to the seller.
>
> But why no PLATE reading on the panel meter in TUNE mode with the
> meter on RF and SEND flipped? I replaced the 12BY7A driver tube, but
> it had no effect. Can the first arcing event have caused serious
> damage somewhere else? I have done the final cage repair kit mod, so
> the problem must be somewhere else.
>
> 73
>
> Peter OZ8CTH
>
> *Fra:*TS-520_820_530_830@yahoogroups.com
> [mailto:TS-520_820_530_830@yahoogroups.com] *P? vegne af *W5RKL
> *Sendt:* 4. januar 2014 21:24
> *Til:* TS-520_820_530_830@yahoogroups.com
> *Emne:* Re: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV:
> [TS-520_820_530_830] TS830S no bias
>
>
>
> Peter,
>

> This is a shot in the dark because i can't see anything that would
> cause the SG1 voltage not to return to +252VDC when moving the MODE
> switch from TUNE to USB, LSB, or any of the CW positions. There's
> nothing I can see that can cause this problem.
>
> Recreate the problem where the SG1 voltage is +128VDC in USB, LSB, or
> any CW position. Once that happens, leave the volt meter connected to
> the SG1 terminal then tap on the Rectifier Unit's RL1 relay. If the
> voltage returns to +252VDC then the Rectifier Unit's RL1 relay is the
> source of your problem.
>
>
> 73
> Mike W5RKL
>
>
>
>
> On 1/4/2014 1:40 PM, Peter Ravn wrote:
>
> Peter,
>
> You misunderstood me. What I said was that SG1 and PD2 voltages on
> the rectifier unit were + 252 VDC with SG SWITCH on. But after
> having been in TUNE mode voltages didn't return to +252 VDC, but
> to +128VDC with SG SWTICH on and to -54 VDC with SG SWITCH off,
> i.e. a drop of 50 % in STAND BY mode. This is where the radio on
> power up.
>
> 73
>
> Peter OZ8CTH
>
> *Fra:*TS-520_820_530_830@yahoogroups.com
> <mailto:TS-520_820_530_830@yahoogroups.com>
> [mailto:TS-520_820_530_830@yahoogroups.com] *P? vegne af *Mike W5RKL
> *Sendt:* 4. januar 2014 19:49
> *Til:* TS-520_820_530_830@yahoogroups.com
> <mailto:TS-520_820_530_830@yahoogroups.com>
> *Emne:* Re: SV: SV: SV: SV: SV: SV: SV: SV: SV:
> [TS-520_820_530_830] TS830S no bias
>
>
>
> Peter,
>
> If the SG1 and PD2 voltages drop by 50% with the MODE switch set
> to TUNE, that's what they are suppose to do. That's how the KW
> hybrids reduce the final amplifier's DC input power by 50% in TUNE
> mode.

>
> Therefore, if the Rectifier Unit SG1 and PD2 voltages drop 50%
> with the MODE switch set to TUNE with the transmitter keyed but
> increases by 50% back to +252VDC with the MODE switch in USB or
> LSB mode then the voltage reduction you are seeing in TUNE mode is
> correct. If you remember I said that the screen voltage is
> "reduced" by 50% in TUNE mode in order to reduce the final
> amplifier's DC input power by 50%.
>
> Does this make sense? It's important that you understand what is
> happening with the SG1/PD2 final tube screen voltage between TUNE
> and USB/LSB modes.
>
> 73
> Mike W5RKL
>
>
> On 1/4/2014 12:24 PM, Peter Ravn wrote:
>
> Mike,
>
> After I had you answer, I measured the PD1, PD2, and SG1
> voltages once again. Miraculously the 50 % drop in DC voltage
> had disappeared! But my joy was short lived. After I had
> checked bias in the final unit in TUNE mode with SG SWITCH on
> and SEND flipped, PD1, PD2, and SG1 voltage were 50 % down as
> before. RL1? D12?
>
> 73
>
> Peter OZ8CTH
>
> *Fra:*TS-520_820_530_830@yahoogroups.com
> <mailto:TS-520_820_530_830@yahoogroups.com>
> [mailto:TS-520_820_530_830@yahoogroups.com] *P? vegne af *Mike
> W5RKL
> *Sendt:* 4. januar 2014 18:52
> *Til:* TS-520_820_530_830@yahoogroups.com
> <mailto:TS-520_820_530_830@yahoogroups.com>
> *Emne:* Re: SV: SV: SV: SV: SV: SV: SV: SV: SV:
> [TS-520_820_530_830] TS830S no bias
>
>
>
> Peter,
>
> Are you sure you measured the Rectifier Unit's "PD1, PD2, and
> SG1" voltage correctly? You show the Rectifier Unit's PD1,
> PD2, and SG1 voltage as "half" of the Rectifier Unit's SG2
> voltage which is +252VDC. There's noting between the Rectifier

> Unit's SG2 terminal voltage (+252VDC) and the Rectifier Unit's
> "SG1" and "PD2" terminals that will cause a 50% drop in DC
> voltage.
>
>
> 73
> Mike W5RKL
>
>
>
>
>
> On 1/4/2014 9:35 AM, Peter Ravn wrote:
>
> Mike,
>
> On power up the RL1 relay on the rectifier board is being
> energized. With the SG switch set to ON, RL1 goes back to
> the position before power up.
>
> RECTIFIER BOARD IN STAND-BY WITH FINAL TUBES REMOVED
>
> TERMINAL
>
>
>
> SG SWITCH OFF
>
>
>
> SG SWITCH ON
>
> 210A
>
>
>
> +252
>
>
>
> +252
>
> 210B
>
>
>
> +252
>
>
>

```
> +252
>
> SG1
>
>
>
> -54
>
>
>
> +128
>
> SG2
>
>
>
> -110
>
>
>
> +254
>
> PD1
>
>
>
> -54
>
>
>
> +128
>
> PD2
>
>
>
> -54
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>
>
> +128
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> 12
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>
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> 12
>
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> 12
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> -C
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>
>
> -108
>
>
>
> -107
>
> TUN
>
>
>
> -54
>
>
>
> +128
>
> 73
>
> Peter OZ8CTH
>
> *Fra:*TS-520_820_530_830@yahoogroups.com
> <mailto:TS-520_820_530_830@yahoogroups.com>
> [mailto:TS-520_820_530_830@yahoogroups.com] *På vegne af
> *Mike W5RKL
> *Sendt:* 3. januar 2014 23:12
> *Til:* TS-520_820_530_830@yahoogroups.com
> <mailto:TS-520_820_530_830@yahoogroups.com>
> *Emne:* Re: SV: SV: SV: SV: SV: SV: SV: SV:
> [TS-520_820_530_830] TS830S no bias
>
>
>
> Peter,
>
> I don't want to interfere with you and Terry, just thought
> I would say a few words about your voltage measurements.
>
> First, the Rectifier Unit's "210A" terminal is the driver
> and both final tube screen power supply "output". The
> Rectifier Unit's "210B" is not the screen supply's output,
> it's the output of the screen supply's "rectifier" voltage
> that is applied to the capacitive input filter on the IF
> unit. The Rectifier Unit's "210A" and "210B" terminals can
> be confusing until you trace the wiring on the schematic

> to the IF Unit's plug 14 pins 1 and 3 and back to the
> Rectifier Unit. The driver and both final tube screen
> supply is a half wave rectifier feeding a capacitive input
> PI filter. The rectifier is D6, C181 (22ufd 350VDC) and
> C180 (22ufd 350VDC) radial lead capacitors, with R11, 470
> ohm resistor connected between C180 and C181's positive
> terminals. It's a very simple none regulated half wave DC
> screen supply for the driver and both final tubes.
>
> Next, with the MODE switch set to TUNE, the "210A" output
> voltage is applied to the Rectifier Unit's relay "RL1"
> then to the voltage divider resistors R15 and R16, both
> are 56K 1/2 watt. The voltage at the junction of R15 and
> R16 is then applied to the Rectifier Unit's "TUNE"
> terminal which is then applied to the MODE switches "TUNE"
> terminal. The TUNE voltage is then applied over the "SG1"
> wire to the Rectifier Unit's "SG1" terminal where it flows
> through L1 and out PD2 to the Final Unit's "SG" terminal.
>
> Here is how the TUNE mode reduces the final tube screen
> voltage by 50%. For example, lets say the 210A screen
> supply output voltage is "+265VDC" and the MODE switch is
> set to TUNE. The 210A voltage is applied to the voltage
> divider resistors R15 and R16 through the Rectifier Unit's
> relay RL1 resulting in approximately .00236 amps of
> current flowing through both R15 and R16 (265 / 112000 =
> .00236). This result in a voltage drop across R15 of
> approximately +132.5VDC (.00236 x 56000 = 132.5) resulting
> in +132.5VDC at the junction of R15 and R16. The
> "+132.5VDC" is then applied to the Rectifier Unit's "TUNE"
> terminal, then to the MODE switch TUNE terminal, through
> the MODE switch wiper and back through the "SG1" wiring to
> the Rectifier Unit's "SG1" terminal, through L1, out PD2,
> to the Final Unit's "SG" terminal then to the 6146
> screens. This 50% decrease in screen voltage to the final
> tube is how the DC input power is reduced in TUNE mode.
> The final tube screen voltage is reduced in TUNE mode but
> not the driver tube's screen voltage.
>
> The SG switch, when set to "OFF", will energize the
> Rectifier Unit's relay RL1. If the relay does not energize
> with the SG switch set to OFF then check for 12VDC at the
> AF Unit's "12" terminal.
>
> You said you measured 52VDC at the Rectifier Unit's "PD1,
> PD2, and SG1" terminal but then you said you measured 0VDC
> at "SG1". You can't have 52VDC and 0VDC on the SG1
> terminal at the same time.
>
> 73

> Mike W5RKL
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> <http://www.avast.com/>
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>
>
> This email is free from viruses and malware because avast! Antivirus
> <http://www.avast.com/> protection is active.
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46829. Rejoined Group

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-05 14:14:18 UTC
From: Michael Rolph
Topic: 46829 Message: 46829

Hi All
As I have now got my full uk ticket and changed my email address accordingly I have rejoined the group. My experience on the technical side is limited but I am very willing to learn. I run an ts-520se which gets me very good reports and also have 2 ts-830s rigs both of which have various problems, the one I am working on suffers from very low output on ssb and I have tried various mics including the one from my 520 all with similar results. The output on cw seems fine. I have been sitting on the sidelines following with interest all relevant posts and would appreciate any help given.

finally a happy new year to all in the group
73 de Mike M0MCY

46830. Re: [TS-520_820_530_830] Rejoined Group

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-05 14:44:05 UTC
From: Mike W5RKL
Topic: 46829 Message: 46830

Mike,

You did not say "how" you were monitoring the 830's RF output in sideband transmit. We need to know whether you are using the 830's RF switch setting or a watt meter.

If you are using the 830's RF meter switch setting, have you looked at the rear panel's RF VOLT pot? Review the operator's manual on how to set the RF VOLT control.

If you are using a watt meter, you did not states what the watt meter was indicating when operating side band with the MIC gain set between 10 and 11 o'clock.

73
Mike W5RKL

On 1/5/2014 8:14 AM, Michael Rolph wrote:
> Hi All
> As I have now got my full uk ticket and changed my email address
> accordingly I have rejoined the group. My experience on the technical
> side is limited but I am very willing to learn. I run an ts-520se
> which gets me very good reports and also have 2 ts-830s rigs both of
> which have various problems, the one I am working on suffers from very
> low output on ssb and I have tried various mics including the one from
> my 520 all with similar results. The output on cw seems fine. I have
> been sitting on the sidelines following with interest all relevant
> posts and would appreciate any help given.
>
> finally a happy new year to all in the group
> 73 de Mike M0MCY
>

46831. Re: [TS-520_820_530_830] Rejoined Group

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-05 15:15:44 UTC
From: Mike W5RKL
Topic: 46829 Message: 46831

I forgot to ask whether you have and are using a 50 ohm dummy load or an antenna to test the 830's power output in sideband? If you do not have a 50 ohm dummy load I recommend you obtain one and use it for testing.

There are numerous 50 ohm "dry" (no oil) dummy loads. A few example are the Vectronics VEC-552 (1.5KW), MFJ-260C (300 watt), and the MFJ-264 (1.5KW). The MFJ-260C will work with the KW hybrids but the key down period, at 100 watts output, must be kept to a maximum of 1.5 minutes followed by a 2 minute cool down period. I use the MFJ-260C on the work bench and keep key down periods to less than 30 seconds. I use the VEC-552 as the station dummy load, works very well with 100 watt exciters and 600 watt amplifier (AL-811). I personally don't care for the oil filled dummy loads, too messy for my taste.

As I said, you should get into the practice of using a 50 ohm dummy load when testing/troubleshooting exciters and even tuning transmitters when changing frequencies. Keep unnecessary interference off the air plus provides a stable 50 ohm "non-inductive resistive load" to the transmitter.

73
Mike W5RKL

On 1/5/2014 8:44 AM, Mike W5RKL wrote:
>
> Mike,
>
> You did not say "how" you were monitoring the 830's RF output in
> sideband transmit. We need to know whether you are using the 830's RF
> switch setting or a watt meter.
>
> If you are using the 830's RF meter switch setting, have you looked at
> the rear panel's RF VOLT pot? Review the operator's manual on how to
> set the RF VOLT control.
>
> If you are using a watt meter, you did not states what the watt meter
> was indicating when operating side band with the MIC gain set between
> 10 and 11 o'clock.
>
> 73
> Mike W5RKL
>
>
>
>
>
>

>
>
>
> On 1/5/2014 8:14 AM, Michael Rolph wrote:
>> Hi All
>> As I have now got my full uk ticket and changed my email address
>> accordingly I have rejoined the group. My experience on the technical
>> side is limited but I am very willing to learn. I run an ts-520se
>> which gets me very good reports and also have 2 ts-830s rigs both of
>> which have various problems, the one I am working on suffers from
>> very low output on ssb and I have tried various mics including the
>> one from my 520 all with similar results. The output on cw seems
>> fine. I have been sitting on the sidelines following with interest
>> all relevant posts and would appreciate any help given.
>>
>> finally a happy new year to all in the group
>> 73 de Mike M0MCY
>
>

46832. Re: [TS-520_820_530_830] Rejoined Group

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-05 15:45:41 UTC
From: <m0mcy1949@...>
Topic: 46829 Message: 46832

Hi Again Mike
The dummy load is a homebrew oil filled one belonging to my local club and yes it is messy!
I do keep key down as short as possible.

73 Mike M0MCY

46833. Re: [TS-520_820_530_830] Rejoined Group

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-05 15:36:25 UTC
From: <m0mcy1949@...>
Topic: 46829 Message: 46833

Hi Mike
Thank you for your reply, I am using the power meter on the at-230 which is itself connected in the through position to a dummy load at 10 o clock I get virtually no output at all and have to turn it fully clockwise.

73 Mike M0MCY

46834. Re: [TS-520_820_530_830] Rejoined Group

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-05 16:53:48 UTC
From: <w5rkl@...>
Topic: 46829 Message: 46834

Mike,

Okay, try using the 830's RF meter switch setting to see if there is any indication of output power.

Also, after you tune the transmitter up, following the transmitter tuning procedures in the operator's manual, set the meter switch to RF then set the rear panel RF VOLT control to the middle of its travel and test transmitter in SUB or LSB. Let us know what the RF meter shows.

73
Mike W5RKL

46835. SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: [TS-520_820_530_830] TS830S no bias

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-05 17:09:05 UTC
From: Peter Ravn
Topic: 46257 Message: 46835

Mike,

My 830S is on the air again. Once again you were right, Mike. I had overlooked the RF volt pot setting at the rear panel. After almost three weeks I have had the first QSO□s with good audio reports. Neutralisation of the new 6146□s remains, but will be done soon.

Thanks a lot you and Terry (K9TW). You are running an absolutely first class casualty department for those lost in the wood.

73

Peter OZ8CTH

Fra: TS-520_820_530_830@yahoogroups.com
[mailto:TS-520_820_530_830@yahoogroups.com] På vegne af Mike W5RKL
Sendt: 5. januar 2014 14:13
Til: TS-520_820_530_830@yahoogroups.com
Emne: Re: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV:
[TS-520_820_530_830] TS830S no bias

Peter,

That's good and it settles a few questions that kept puzzling me. For safety sake, never work on a radio when you are tired, you can make some serious mistakes that can harm you.

You said you can peak the drive, good ALC indication in TUNE mode, with the 6146Bs installed so, for now, that eliminates the driver tube. The symptoms did not change by replacing the driver tube. Always look at the meter indications and the symptoms before changing any component or tube. If there is plenty of drive indicating strong ALC indication then the driver tube is fine and no need to replace it.

Have you checked the rear panel's RF VOLT pot setting? The RF VOLT pot controls the RF indication with the meter switch set to RF. There is no meter scale for the RF meter switch setting. The RF meter switch setting displays "relative" output and there is no meter scale for the RF meter switch setting, simply follow the RF VOLT pot setting instructions in the operator's manual.

What is the IP meter indicating when the transmitter's adjusted for maximum power output?

What is the HV meter indicating when the transmitter's adjusted for maximum power output?

You should also measure the final tube screen and cathode voltages when the transmitter's adjusted for maximum power output.

Lets assume the cathode resistance is approximate 5 ohms and the IP meter is indicating 225ma, the final tube cathode voltage, measured at pin 1 of the final tube socket, should be approximately +1.125VDC. The final tube's screen voltage, measured at the final unit's "SG" terminal, should drop from +252VDC down to approximately +210VDC. The HV should drop from approximately +900VDC down to approximately +825VDC. Measuring the final tube's screen, cathode, and looking at the HV meter indication with the 830 keyed in CW mode (CW key removed from the rear panel CW socket) will tell you a lot of what's happening in the final amplifier. That's why it's important to check these voltages in both standby and transmit.

If the 6146Ws are still arcing, throw them away so you don't accidentally put them in by mistake in the future.

73
Mike W5RKL

On 1/5/2014 5:44 AM, Peter Ravn wrote:

Mike,

I made a mistake by measuring the SG1 and PD2 voltages in TUNE mode and not in CW, USB or LSB mode. That□s the result of working late under stress. As far as voltages is concerned, things now work as they should do.

This morning I installed the 6146B set that turned red due to thermal runaway. Bias was adjusted to 60 ma, and in TUNE mode with the meter on ALC I could peak DRIVE, but in TUNE mode with the meter on RF, the needle didn□t move at all when I turned the PLATE control. Therefore I expected the old 6146□s to have gone bad because of the thermal runaway event.

Then I tried the new 6146W set that arced over when I first installed them. The same happened as before. When setting the bias in USB/LSB mode to 60 ma, there was a flash. The only difference was that the cathode resistors did not open due the K9TW cathode resistor protection modification. Thank you, Terry! The diodes did their job and survived the arcing over.

Finally I tried a completely new set 6146B with exactly the same result as the first one mentioned.

Preliminary conclusion: The old red 6146B set seems to work, though possibly with reduced power. The new 6146W set is definitely bad and will be returned to the seller.

But why no PLATE reading on the panel meter in TUNE mode with the meter on RF and SEND flipped? I replaced the 12BY7A driver tube, but it had no effect. Can the first arcing event have caused serious damage somewhere else? I have done the final cage repair kit mod, so the problem must be somewhere else.

73

Peter OZ8CTH

Fra: TS-520_820_530_830@yahoogroups.com
[mailto:TS-520_820_530_830@yahoogroups.com] På vegne af W5RKL
Sendt: 4. januar 2014 21:24
Til: TS-520_820_530_830@yahoogroups.com
Emne: Re: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: [TS-520_820_530_830]
TS830S no bias

Peter,

This is a shot in the dark because i can't see anything that would cause the SG1 voltage not to return to +252VDC when moving the MODE switch from TUNE to USB, LSB, or any of the CW positions. There's nothing I can see that can cause this problem.

Recreate the problem where the SG1 voltage is +128VDC in USB, LSB, or any CW position. Once that happens, leave the volt meter connected to the SG1 terminal then tap on the Rectifier Unit's RL1 relay. If the voltage returns to +252VDC then the Rectifier Unit's RL1 relay is the source of your problem.

73
Mike W5RKL

On 1/4/2014 1:40 PM, Peter Ravn wrote:

Peter,

You misunderstood me. What I said was that SG1 and PD2 voltages on the rectifier unit were + 252 VDC with SG SWITCH on. But after having been in TUNE mode voltages didn□t return to +252 VDC, but to +128VDC with SG SWTICH on and to -54 VDC with SG SWITCH off, i.e. a drop of 50 % in STAND BY mode. This is where the radio on power up.

73

Peter OZ8CTH

Fra: TS-520_820_530_830@yahoogroups.com
[mailto:TS-520_820_530_830@yahoogroups.com] På vegne af Mike W5RKL
Sendt: 4. januar 2014 19:49
Til: TS-520_820_530_830@yahoogroups.com
Emne: Re: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: [TS-520_820_530_830]
TS830S no bias

Peter,

If the SG1 and PD2 voltages drop by 50% with the MODE switch set to TUNE, that's what they are suppose to do. That's how the KW hybrids reduce the final amplifier's DC input power by 50% in TUNE mode.

Therefore, if the Rectifier Unit SG1 and PD2 voltages drop 50% with the MODE switch set to TUNE with the transmitter keyed but increases by 50% back to

+252VDC with the MODE switch in USB or LSB mode then the voltage reduction you are seeing in TUNE mode is correct. If you remember I said that the screen voltage is "reduced" by 50% in TUNE mode in order to reduce the final amplifier's DC input power by 50%.

Does this make sense? It's important that you understand what is happening with the SG1/PD2 final tube screen voltage between TUNE and USB/LSB modes.

73
Mike W5RKL

On 1/4/2014 12:24 PM, Peter Ravn wrote:

Mike,

After I had you answer, I measured the PD1, PD2, and SG1 voltages once again. Miraculously the 50 % drop in DC voltage had disappeared! But my joy was short lived. After I had checked bias in the final unit in TUNE mode with SG SWITCH on and SEND flipped, PD1, PD2, and SG1 voltage were 50 % down as before. RL1? D12?

73

Peter OZ8CTH

Fra: TS-520_820_530_830@yahoogroups.com
[mailto:TS-520_820_530_830@yahoogroups.com] På vegne af Mike W5RKL
Sendt: 4. januar 2014 18:52
Til: TS-520_820_530_830@yahoogroups.com
Emne: Re: SV: SV: SV: SV: SV: SV: SV: SV: SV: [TS-520_820_530_830] TS830S no bias

Peter,

Are you sure you measured the Rectifier Unit's "PD1, PD2, and SG1" voltage correctly? You show the Rectifier Unit's PD1, PD2, and SG1 voltage as "half" of the Rectifier Unit's SG2 voltage which is +252VDC. There's noting between the Rectifier Unit's SG2 terminal voltage (+252VDC) and the Rectifier Unit's "SG1" and "PD2" terminals that will cause a 50% drop in DC voltage.

73
Mike W5RKL

On 1/4/2014 9:35 AM, Peter Ravn wrote:

Mike,

On power up the RL1 relay on the rectifier board is being energized. With the SG switch set to ON, RL1 goes back to the position before power up.

RECTIFIER BOARD IN STAND-BY WITH FINAL TUBES REMOVED

TERMINAL

```
SG SWITCH OFF

SG SWITCH ON

210A

+252

+252

210B

+252

+252

SG1

-54

+128

SG2

-110

+254

PD1

-54

+128

PD2

-54

+128

12

12

12

-C

-108

-107

TUN

-54

+128
```

73

Peter OZ8CTH

Fra: TS-520_820_530_830@yahoogroups.com
[mailto:TS-520_820_530_830@yahoogroups.com] PÃ¥ vegne af Mike W5RKL
Sendt: 3. januar 2014 23:12
Til: TS-520_820_530_830@yahoogroups.com
Emne: Re: SV: SV: SV: SV: SV: SV: SV: SV: [TS-520_820_530_830] TS830S no bias

Peter,

I don't want to interfere with you and Terry, just thought I would say a few words about your voltage measurements.

First, the Rectifier Unit's "210A" terminal is the driver and both final tube screen power supply "output". The Rectifier Unit's "210B" is not the screen supply's output, it's the output of the screen supply's "rectifier" voltage that is applied to the capacitive input filter on the IF unit. The Rectifier Unit's "210A" and "210B" terminals can be confusing until you trace the wiring on the schematic to the IF Unit's plug 14 pins 1 and 3 and back to the Rectifier Unit. The driver and both final tube screen supply is a half wave rectifier feeding a capacitive input PI filter. The rectifier is D6, C181 (22ufd 350VDC) and C180 (22ufd 350VDC) radial lead capacitors, with R11, 470 ohm resistor connected between C180 and C181's positive terminals. It's a very simple none regulated half wave DC screen supply for the driver and both final tubes.

Next, with the MODE switch set to TUNE, the "210A" output voltage is applied to the Rectifier Unit's relay "RL1" then to the voltage divider resistors R15 and R16, both are 56K 1/2 watt. The voltage at the junction of R15 and R16 is then applied to the Rectifier Unit's "TUNE" terminal which is then applied to the MODE switches "TUNE" terminal. The TUNE voltage is then applied over the "SG1" wire to the Rectifier Unit's "SG1" terminal where it flows through L1 and out PD2 to the Final Unit's "SG" terminal.

Here is how the TUNE mode reduces the final tube screen voltage by 50%. For example, lets say the 210A screen supply output voltage is "+265VDC" and the MODE switch is set to TUNE. The 210A voltage is applied to the voltage divider resistors R15 and R16 through the Rectifier Unit's relay RL1 resulting in approximately .00236 amps of current flowing through both R15 and R16 (265 / 112000 = .00236). This result in a voltage drop across R15 of approximately +132.5VDC (.00236 x 56000 = 132.5) resulting in +132.5VDC at the junction of R15 and R16. The "+132.5VDC" is then applied to the Rectifier Unit's "TUNE" terminal, then to the MODE switch TUNE terminal, through the MODE switch wiper and back through the "SG1" wiring to the Rectifier Unit's "SG1" terminal, through L1, out PD2, to the Final Unit's "SG" terminal then to the 6146 screens. This 50% decrease in screen voltage to the final tube is how the DC input power is reduced in TUNE mode. The final tube screen voltage is reduced in TUNE mode but not the driver tube's screen voltage.

The SG switch, when set to "OFF", will energize the Rectifier Unit's relay RL1. If the relay does not energize with the SG switch set to OFF then check for 12VDC at the AF Unit's "12" terminal.

You said you measured 52VDC at the Rectifier Unit's "PD1, PD2, and SG1" terminal but then you said you measured 0VDC at "SG1". You can't have 52VDC and 0VDC on the SG1 terminal at the same time.

73
Mike W5RKL

<http://www.avast.com/>

This email is free from viruses and malware because avast! Antivirus <http://www.avast.com/> protection is active.

46836. RE: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: [TS-520_820_530_830] TS830S no bias

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-05 19:02:04 UTC
From: <wagstw46@...>
Topic: 46257 Message: 46836

Peter

Peter:

Glad you got the TS-830 going. Good learning exercise. Hopefully not too expensive.

Regards your JAN 6146W tubes you might try talking to Merit Arnold at RF Parts Company. He is the owner and is a ham and has reputation for being honest business man. Not sure if he takes calls anymore or not.

Glad you didnt pop the cathode meter shunts again when you tried the finals after the arc over event. Absent a DC hipot test it is always a gamble if you try finals again. As I mentioned I dont like exposing my panel meters to the risk. With your diode string installed should limit meter circuit exposure to approx 2vdc.

73s
Terry K9TW

46837. Kenwood Hybrid Net Update (January 5, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-05 19:37:49 UTC
From: Mark Gilger
Topic: 46837 Message: 46837

Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

The net recently celebrated it□s 2nd year in existence on November 1st, 2013. The yearly check-in totals are posted at the bottom of this message. It showed we had a 10% increase in our Saturday check-ins and an 8% on Sunday as compared to the 2012 check-ins.

The Saturday 40 meter net had 19 stations checking in under noisy band conditions. There were 2 new stations checking in, KK4SWX, and KD4ZCC. We had the following number of radios checking in.

4 running TS-520(x)
1 running TS-530(x)
2 running TS-820(x)
4 running TS-830S

I was running my TS-830s with an L4B amplifier.

The Sunday□s 20 meter net had 19 stations checking in under good band conditions. There was 1 new stations checking in, AG6DB.

Out of those, there was:

4 running TS-520(x)
1 running TS-530(x)
2 running TS-820(x)
4 running TS-830S

I was running my 820 twins, TS-820s + R-820.

We have been having several people checking in regularly with their TS-430, TS-440, and TS-940□s, which of course is not a hybrid, although over 30+ years old. Everyone is welcome as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a net control station, please send me an email.

Currently it's just myself, WB2KNR and WB0SGA. I would like to get several more. If we do, we can alternate so everyone might be on a 3-4 week rotation. It's a lot of fun and a good way to make sure you station is optimized.

For anyone that has not heard, we have a new web site that WB4HFN is hosting. He currently has a very nice site for Drake, Collins and Heathkit and now Kenwood Hybrids. Good quality manuals plus sale flyers and brochures will be found here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 ☐ Oct. 2012 Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins

November 2013, Saturday☐s net total = 94, Sunday☐s total = 85
December 2013, Saturday☐s net total = 87, Sunday☐s total = 103
January 2014, Saturday☐s net total = 19, Sunday☐s total = 19 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

46838. Re: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: [TS-520_820_530_830] TS830S no bias

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-05 19:41:55 UTC
From: Mike W5RKL
Topic: 46257 Message: 46838

You're welcome Peter, that is what this group is all about, providing "factual" technical information to help members get back on the right track to success in fixing their KW hybrid problems and educating the members as well.

73
Mike W5RKL

On 1/5/2014 11:09 AM, Peter Ravn wrote:
>
> Mike,
>
> My 830S is on the air again. Once again you were right, Mike. I had
> overlooked the RF volt pot setting at the rear panel. After almost
> three weeks I have had the first QSO's with good audio reports.
> Neutralisation of the new 6146's remains, but will be done soon.
>
> Thanks a lot you and Terry (K9TW). You are running an absolutely first
> class casualty department for those lost in the wood.
>
> 73
>
> Peter OZ8CTH
>
> *Fra:*TS-520_820_530_830@yahoogroups.com
> [mailto:TS-520_820_530_830@yahoogroups.com] *P? vegne af *Mike W5RKL
> *Sendt:* 5. januar 2014 14:13
> *Til:* TS-520_820_530_830@yahoogroups.com
> *Emne:* Re: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV:
> [TS-520_820_530_830] TS830S no bias
>
>
>
> Peter,
>
> That's good and it settles a few questions that kept puzzling me. For
> safety sake, never work on a radio when you are tired, you can make
> some serious mistakes that can harm you.
>
> You said you can peak the drive, good ALC indication in TUNE mode,
> with the 6146Bs installed so, for now, that eliminates the driver
> tube. The symptoms did not change by replacing the driver tube. Always
> look at the meter indications and the symptoms before changing any
> component or tube. If there is plenty of drive indicating strong ALC

> indication then the driver tube is fine and no need to replace it.
>
> Have you checked the rear panel's RF VOLT pot setting? The RF VOLT pot
> controls the RF indication with the meter switch set to RF. There is
> no meter scale for the RF meter switch setting. The RF meter switch
> setting displays "relative" output and there is no meter scale for the
> RF meter switch setting, simply follow the RF VOLT pot setting
> instructions in the operator's manual.
>
> What is the IP meter indicating when the transmitter's adjusted for
> maximum power output?
>
> What is the HV meter indicating when the transmitter's adjusted for
> maximum power output?
>
> You should also measure the final tube screen and cathode voltages
> when the transmitter's adjusted for maximum power output.
>
> Lets assume the cathode resistance is approximate 5 ohms and the IP
> meter is indicating 225ma, the final tube cathode voltage, measured at
> pin 1 of the final tube socket, should be approximately +1.125VDC. The
> final tube's screen voltage, measured at the final unit's "SG"
> terminal, should drop from +252VDC down to approximately +210VDC. The
> HV should drop from approximately +900VDC down to approximately
> +825VDC. Measuring the final tube's screen, cathode, and looking at
> the HV meter indication with the 830 keyed in CW mode (CW key removed
> from the rear panel CW socket) will tell you a lot of what's happening
> in the final amplifier. That's why it's important to check these
> voltages in both standby and transmit.
>
> If the 6146Ws are still arcing, throw them away so you don't
> accidentally put them in by mistake in the future.
>
> 73
> Mike W5RKL
>
> On 1/5/2014 5:44 AM, Peter Ravn wrote:
>
> Mike,
>
> I made a mistake by measuring the SG1 and PD2 voltages in TUNE
> mode and not in CW, USB or LSB mode. That's the result of working
> late under stress. As far as voltages is concerned, things now
> work as they should do.
>
> This morning I installed the 6146B set that turned red due to
> thermal runaway. Bias was adjusted to 60 ma, and in TUNE mode with
> the meter on ALC I could peak DRIVE, but in TUNE mode with the
> meter on RF, the needle didn't move at all when I turned the PLATE
> control. Therefore I expected the old 6146's to have gone bad

> because of the thermal runaway event.
>
> Then I tried the new 6146W set that arced over when I first
> installed them. The same happened as before. When setting the bias
> in USB/LSB mode to 60 ma, there was a flash. The only difference
> was that the cathode resistors did not open due the K9TW cathode
> resistor protection modification. Thank you, Terry! The diodes did
> their job and survived the arcing over.
>
> Finally I tried a completely new set 6146B with exactly the same
> result as the first one mentioned.
>
> Preliminary conclusion: The old red 6146B set seems to work,
> though possibly with reduced power. The new 6146W set is
> definitely bad and will be returned to the seller.
>
> But why no PLATE reading on the panel meter in TUNE mode with the
> meter on RF and SEND flipped? I replaced the 12BY7A driver tube,
> but it had no effect. Can the first arcing event have caused
> serious damage somewhere else? I have done the final cage repair
> kit mod, so the problem must be somewhere else.
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> Peter OZ8CTH
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> *Til:* TS-520_820_530_830@yahoogroups.com
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> *Emne:* Re: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV:
> [TS-520_820_530_830] TS830S no bias
>
>
>
> Peter,
>
> This is a shot in the dark because i can't see anything that would
> cause the SG1 voltage not to return to +252VDC when moving the
> MODE switch from TUNE to USB, LSB, or any of the CW positions.
> There's nothing I can see that can cause this problem.
>
> Recreate the problem where the SG1 voltage is +128VDC in USB, LSB,
> or any CW position. Once that happens, leave the volt meter
> connected to the SG1 terminal then tap on the Rectifier Unit's RL1
> relay. If the voltage returns to +252VDC then the Rectifier Unit's
> RL1 relay is the source of your problem.
>

>
> 73
> Mike W5RKL
>
>
>
>
>
> On 1/4/2014 1:40 PM, Peter Ravn wrote:
>
> Peter,
>
> You misunderstood me. What I said was that SG1 and PD2
> voltages on the rectifier unit were + 252 VDC with SG SWITCH
> on. But after having been in TUNE mode voltages didn't return
> to +252 VDC, but to +128VDC with SG SWTICH on and to -54 VDC
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> Peter OZ8CTH
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> If the SG1 and PD2 voltages drop by 50% with the MODE switch
> set to TUNE, that's what they are suppose to do. That's how
> the KW hybrids reduce the final amplifier's DC input power by
> 50% in TUNE mode.
>
> Therefore, if the Rectifier Unit SG1 and PD2 voltages drop 50%
> with the MODE switch set to TUNE with the transmitter keyed
> but increases by 50% back to +252VDC with the MODE switch in
> USB or LSB mode then the voltage reduction you are seeing in
> TUNE mode is correct. If you remember I said that the screen
> voltage is "reduced" by 50% in TUNE mode in order to reduce
> the final amplifier's DC input power by 50%.
>

> Does this make sense? It's important that you understand what
> is happening with the SG1/PD2 final tube screen voltage
> between TUNE and USB/LSB modes.
>
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> voltage had disappeared! But my joy was short lived. After
> I had checked bias in the final unit in TUNE mode with SG
> SWITCH on and SEND flipped, PD1, PD2, and SG1 voltage were
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> between the Rectifier Unit's SG2 terminal voltage
> (+252VDC) and the Rectifier Unit's "SG1" and "PD2"
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>
> RECTIFIER BOARD IN STAND-BY WITH FINAL TUBES REMOVED
>
> TERMINAL
>
>
>
> SG SWITCH OFF
>
>
>
> SG SWITCH ON
>
> 210A
>
>
>
> +252
>
>
>
> +252
>
> 210B
>
>
>
> +252
>
>
>
> +252
>
> SG1
>
>
>
> -54

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>
>
>
> +128
>
> SG2
>
>
>
> -110
>
>
>
> +254
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> PD1
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>
> -54
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>
>
> +128
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> PD2
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> -54
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> -108
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>
>
>
> -107
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> TUN
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> -54
>
>
>
> +128
>
> 73
>
> Peter OZ8CTH
>
> *Fra:*TS-520_820_530_830@yahoogroups.com
> <mailto:TS-520_820_530_830@yahoogroups.com>
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> *Sendt:* 3. januar 2014 23:12
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> <mailto:TS-520_820_530_830@yahoogroups.com>
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> screen supply's output, it's the output of the screen
> supply's "rectifier" voltage that is applied to the
> capacitive input filter on the IF unit. The Rectifier
> Unit's "210A" and "210B" terminals can be confusing
> until you trace the wiring on the schematic to the IF
> Unit's plug 14 pins 1 and 3 and back to the Rectifier
> Unit. The driver and both final tube screen supply is
> a half wave rectifier feeding a capacitive input PI
> filter. The rectifier is D6, C181 (22ufd 350VDC) and
> C180 (22ufd 350VDC) radial lead capacitors, with R11,

> 470 ohm resistor connected between C180 and C181's
> positive terminals. It's a very simple none regulated
> half wave DC screen supply for the driver and both
> final tubes.
>
> Next, with the MODE switch set to TUNE, the "210A"
> output voltage is applied to the Rectifier Unit's
> relay "RL1" then to the voltage divider resistors R15
> and R16, both are 56K 1/2 watt. The voltage at the
> junction of R15 and R16 is then applied to the
> Rectifier Unit's "TUNE" terminal which is then applied
> to the MODE switches "TUNE" terminal. The TUNE voltage
> is then applied over the "SG1" wire to the Rectifier
> Unit's "SG1" terminal where it flows through L1 and
> out PD2 to the Final Unit's "SG" terminal.
>
> Here is how the TUNE mode reduces the final tube
> screen voltage by 50%. For example, lets say the 210A
> screen supply output voltage is "+265VDC" and the MODE
> switch is set to TUNE. The 210A voltage is applied to
> the voltage divider resistors R15 and R16 through the
> Rectifier Unit's relay RL1 resulting in approximately
> .00236 amps of current flowing through both R15 and
> R16 (265 / 112000 = .00236). This result in a voltage
> drop across R15 of approximately +132.5VDC (.00236 x
> 56000 = 132.5) resulting in +132.5VDC at the junction
> of R15 and R16. The "+132.5VDC" is then applied to the
> Rectifier Unit's "TUNE" terminal, then to the MODE
> switch TUNE terminal, through the MODE switch wiper
> and back through the "SG1" wiring to the Rectifier
> Unit's "SG1" terminal, through L1, out PD2, to the
> Final Unit's "SG" terminal then to the 6146 screens.
> This 50% decrease in screen voltage to the final tube
> is how the DC input power is reduced in TUNE mode. The
> final tube screen voltage is reduced in TUNE mode but
> not the driver tube's screen voltage.
>
> The SG switch, when set to "OFF", will energize the
> Rectifier Unit's relay RL1. If the relay does not
> energize with the SG switch set to OFF then check for
> 12VDC at the AF Unit's "12" terminal.
>
> You said you measured 52VDC at the Rectifier Unit's
> "PD1, PD2, and SG1" terminal but then you said you
> measured 0VDC at "SG1". You can't have 52VDC and 0VDC
> on the SG1 terminal at the same time.
>
> 73
> Mike W5RKL
>

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> <http://www.avast.com/>
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> This email is free from viruses and malware because avast!
> Antivirus <http://www.avast.com/> protection is active.
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46839. Re: [TS-520_820_530_830] Ts 520.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-05 19:49:13 UTC
From: Ron
Topic: 46785 Message: 46839

Hello Terry an group ,, the question I have is: does it matter if an Allen wrench is used in the tuning coil lugs or do I need to find another tool ??? Thanks

Ron KK4PWF

On Jan 2, 2014, at 8:14 AM, <wagstw46@...> wrote:

>
>
> Ron
>
>
>
> Your question was framed how to align the hanging board wafer switches to the bandswitch shaft. Could have saved some keystrokes if you had said you had the hanging boards all aligned and just needed to know how to couple its shaft to the S5 switch shaft.
>
>
>
> You like to make me work!
>
>
>
> Terry
>
>
>
>

46840. Re: [TS-520_820_530_830] Ts 520.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-05 19:58:32 UTC
From: Gordon JC Pearce
Topic: 46785 Message: 46840

On Sun, Jan 05, 2014 at 01:49:13PM -0600, Ron wrote:
> Hello Terry an group ,, the question I have is: does it matter if an Allen wrench is used in the tuning coil lugs or do I need to find another tool ??? Thanks

It does a bit, metal tools will affect the tuning and almost certainly crack the fragile ferrite core!

That's not to say I haven't used metal allen keys or screwdrivers on stubborn cores, but only as a second-last resort when the last resort is to smash the buggers out and fit new ones.

--
Gordonjcp MM0YEQ

46841. Re: [TS-520_820_530_830] Ts 520.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-05 19:54:51 UTC
From: Ron
Topic: 46785 Message: 46841

My gut feeling is that I need a plastic tool !!

Ron KK4PWF

On Jan 5, 2014, at 1:49 PM, Ron <bozo231@...> wrote:

>
>
> Hello Terry an group ,, the question I have is: does it matter if an Allen wrench is used in the tuning coil lugs or do I need to find another tool ??? Thanks
>
> Ron KK4PWF
>
> On Jan 2, 2014, at 8:14 AM, <wagstw46@...> wrote:
>
>> Ron
>>
>>
>>
>> Your question was framed how to align the hanging board wafer switches to the bandswitch shaft. Could have saved some keystrokes if you had said you had the hanging boards all aligned and just needed to know how to couple its shaft to the S5 switch shaft.
>>
>>
>>
>> You like to make me work!
>>
>>
>>
>> Terry
>>
>
>
>

46842. Re: : [TS-520_820_530_830] TS830S no bias

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-05 20:15:19 UTC
From: Joe - W7RKN
Topic: 46819 Message: 46842

Maybe the next person replying to this topic could trim the subject line in their replay? 13 SV's a bit much!

Joe - W7RKN
----- Original Message -----
From: wagstw46@...
Subject: RE: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: [TS-520_820_530_830] TS830S no bias

Peter

Peter:

Glad you got the TS-830 going. Good learning exercise. Hopefully not too expensive.

Regards your JAN 6146W tubes you might try talking to Merit Arnold at RF Parts Company. He is the owner and is a ham and has reputation for being honest business man. Not sure if he takes calls anymore or not.

Glad you didnt pop the cathode meter shunts again when you tried the finals after the arc over event. Absent a DC hipot test it is always a gamble if you try finals again. As I mentioned I dont like exposing my panel meters to the risk. With your diode string installed should limit meter circuit exposure to approx 2vdc.

73s

Terry K9TW

46843. Re: [TS-520_820_530_830] Ts 520.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-05 20:35:42 UTC
From: <wagstw46@...>
Topic: 46785 Message: 46843

Ron:

Never use metal tools (screw drivers, allen wrenches etc) to adjust any hex core slugs. A real good way to crack the core.

If you are going to perform KW hybrid work you need to invest in proper alignment tools. K4EAA sells proper AL-1 plastic alignment tool for the TS520 coils for $2.95.

Can buy a GC Waldom set that has common needed tools. They use to sell a 8 piece CB/TV alignment set.

Check on Ebay and Amazon.

Terry K9TW

46844. Re: [TS-520_820_530_830] Ts 520.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-05 23:24:05 UTC
From: Ron
Topic: 46785 Message: 46844

Thanks Terry ,that's what I thought and I will get them

Ron KK4PWF

On Jan 5, 2014, at 2:35 PM, <wagstw46@...> wrote:

>
>
> Ron:
>
>
>
> Never use metal tools (screw drivers, allen wrenches etc) to adjust any hex core slugs. A real good way to crack the core.
>
>
>
> If you are going to perform KW hybrid work you need to invest in proper alignment tools. K4EAA sells proper AL-1 plastic alignment tool for the TS520 coils for $2.95.
>
>
>
> Can buy a GC Waldom set that has common needed tools. They use to sell a 8 piece CB/TV alignment set.
>
>
>
> Check on Ebay and Amazon.
>
>
>
> Terry K9TW
>
>
>
>

46845. Soomething simple?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-05 22:27:45 UTC
From: <kmx888@...>
Topic: 46845 Message: 46845

I moved my "known to be working correctly" TS-530 across country in my car...carefully. Now when I turn it on the meter pegs to the right on receive. It does this in any position of the band selector, mode selector and meter setting. If I activate the send button on tune or CW it goes to zero on the left and there is no output. It will show HV. SG switch position does not make a difference but I wouldn't expect that it would for receive.

I think that for a minute when I was in the tune position, send button on and the meter in ALC I could use the drive control but no joy at present. Nothing
Kevin
KD0ILM/XV2KM

46846. RE: The TS-820 restore ...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-05 23:08:07 UTC
From: <famtech@...>
Topic: 46669 Message: 46846

The TS-820 restore is shaping-up nicely so far. It now receives and the digital display now works. Just two more issues to solve outside of the gain drop after transmit. Although it does transmit fine LSB and USB, it doesn't on CW. When placed in the "Tune" or "CW" mode and advancing the "Carrier" level control on the front panel, no output is observed. Just a few more things to sort out.

Regards,

Jim L.
WB6KVD

46847. sticking relay?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-05 23:48:14 UTC
From: <kmx888@...>
Topic: 46847 Message: 46847

I have moved my "known to be good 530S from one part of the country to another carefully in my car. When I hook it bak up I get no sound and it is producing power when the mode switch is in Tune and CW in both the Rec and the Send position. Moving the switch makes no difference whatsoever. I also have no sound. Ideas? My mind goes to a relay sticking.....
If so which one is it?
Best
Kevin
KD0ILM/XV2KM

46848. Re: [TS-520_820_530_830] Soomething simple?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-06 00:07:24 UTC
From: Joseph Stiles
Topic: 46845 Message: 46848

Kevin,

Is it possible you have the RF gain turned full counter clockwise...instead of full clockwise?

73 Joe
WB7UQU

On Sunday, January 5, 2014 4:05 PM, "kmx888@..." <kmx888@...> wrote:

>I moved my "known to be working correctly" TS-530 across country in my car...carefully. Now when I turn it on the meter pegs to the right on receive. It does this in any position of the band selector, mode selector and meter setting. If I activate the send button on tune or CW it goes to zero on the left and there is no output. It will show HV. SG switch position does not make a difference but I wouldn't expect that it would for receive.
>
>
>I think that for a minute when I was in the tune position, send button on and the meter in ALC I could use the drive control but no joy at present. Nothing
>Kevin
>KD0ILM/XV2KM
>
>
>

46849. Re: : [TS-520_820_530_830] TS830S no bias

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-06 00:36:08 UTC
From: Bob Lazarow
Topic: 46819 Message: 46849

Terry: While not often useful for RF applications, would a tube tester show problems if tube element sag had occured ? No guarentee that it hadn't but might show that it had, or that something had happened, and better than just guessing, if true.

73

Bob / WA2JAJ
-----Original Message-----
From: Joe - W7RKN
Sent: Jan 5, 2014 3:15 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: Re: : [TS-520_820_530_830] TS830S no bias

?

□
Maybe the next person replying to this topic could trim the subject line in their replay?? 13 SV's a bit much!

?

Joe - W7RKN

----- Original Message -----

From: wagstw46@...

Subject: RE: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: SV: [TS-520_820_530_830] TS830S no bias

Peter

Peter:

Glad you got the TS-830 going. Good learning exercise. Hopefully not too expensive.?

Regards your JAN 6146W tubes you might try talking to Merit Arnold at RF Parts Company. He is the owner and is a ham and has reputation for being honest business man. Not sure if he takes calls anymore or not.?

Glad you didnt pop the cathode meter shunts again when you tried the finals after the arc over event. Absent a DC hipot test it is always a gamble if you try finals again. As I mentioned I dont like exposing my panel meters to the risk. With your diode string installed should limit meter circuit exposure to approx 2vdc.?

73s

Terry K9TW

46850. Re: : [TS-520_820_530_830] TS830S no bias

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-06 03:54:33 UTC
From: <wagstw46@...>
Topic: 46819 Message: 46850

Bob:

Been years since I owned a tube tester. Had several Hickok units over the years. At one time I did some TV repair and just about anyone who did that had a tube tester. Some used neon lamp and others used an megohm scale on the GM meter to indicate shorts. I prefer to measure parameters rather than see a lamp glow. Not sure what it is telling me. Would always do shorts test first and leakage tests. Would switch between different combinations of elements and if got brite glow of the neon lamp or unacceptable resistance reading would trash the tube and no reason to look at the Gm. As I recall they were particularly good for looking for heater to cathode leakage.

So I am not a tube tester expert and dont own one now. However, if you own a tube tester and have had a 6146 final that has gotten so hot that anode glowed cherry red it is possible that other elements have deformed and could indicate as shorted on your tester. Might even show up with standard ohm meter test using a VOM or DMM just not much voltage pushing any current. I am just not a big fan of using a 6146 over again that has experienced thermal run away. I have seen couple of rigs that tubes got so hot that the glass envelope actually softened and sucked in due to the differential between atmosphere and vacuum.

If we are talking 6146 arc over then tube tester wont be much help. Arc overs dont usually result in element damage as the event is short lived and usually confined to the anode and beam plates. I believe the arc is due to off gassing and the ionizing of that gas. Others think may be foreign material or a "wisker" protruding in the gap between anode and beam plates. A DC Hi-pot would be instrument of choice so you could run a stepped dc test up to approx 2000vdc to 2500vdc and measure the micro ampere leakage. With 6146 we are talking under 50ua and usually closer to 10 to 15 ua of leakage. Could use a Meggar and read the leakage in meg-ohms, but most meggars have fixed voltages of 250 or 500 or 1000vdc. I have seen a 5kv meggar (even motor operated so you dont wear out your arm cranking while charging up long runs of cable), but generally the voltage is not continually variable to use for tube testing. More for power cable insulation testing and motor winding polarization index etc. If you were to use a Meggar just have to convert from megohm to ua for meaningful results. 10 ua leakage at 2000vdc is same as 200meg ohm.
Transmitter engineers would be more likely use to seeing leakage expressed in terms of ua as opposed to meg ohms.

I have heard of people charging up a capacitor on there linear amp Anode supply and using it to "pop" transmitter tubes in lieu of a dc hi-pot. I dont recommend this for obvious reasons!

Short answer is if you have a tube tester go ahead and use the Shorts test function to check a 6146 that has runaway. I just dont know how meaningful the results will be. What would be an acceptable resistance? To me a new tube should read infinite between control grid and screen grid for example. I would think any glow of the Shorts lamp would be basis to reject the tube. I guess could compare against known good tubes.

Terry K9TW

46851. RE: [TS-520_820_530_830] sticking relay?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-06 04:13:21 UTC
From: fpath fpath
Topic: 46847 Message: 46851

maybe a stupid question, but have you checked the rf gain pot is in correct spot, also have a look at the car control and move it through its range

73's
Dave

From: kmx888@...
To: TS-520_820_530_830@yahoogroups.com
Date: Sun, 5 Jan 2014 15:48:14 -0800
Subject: [TS-520_820_530_830] sticking relay?

I have moved my "known to be good 530S from one part of the country to another carefully in my car. When I hook it bak up I get no sound and it is producing power when the mode switch is in Tune and CW in both the Rec and the Send position. Moving the switch makes no difference whatsoever. I also have no sound. Ideas? My mind goes to a relay sticking.....If so which one is it?BestKevinKD0ILM/XV2KM

46852. Re: [TS-520_820_530_830] Soomething simple?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-06 05:11:20 UTC
From: <kmx888@...>
Topic: 46845 Message: 46852

Yes I did have the RF gain knob turned all of the way to the left which if course caused that problem. Now I have another problem described in the post about a bad relay. I think I went from simple to not so simple.
Kevin
KD0ILM/Xv2KM

46853. Re: [TS-520_820_530_830] sticking relay?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-06 11:45:59 UTC
From: Mike W5RKL
Topic: 46847 Message: 46853

Kevin,

For this simple voltage test, leave the HEATER switch OFF, SEND switch DOWN, VOX turned OFF, Mode switch to USB or LSB, and power up the 530. Measure the DC voltage at plug 6 pin 6 on the AF Unit board. The voltage, in receive, should be "0VDC". If you measure approximately +12VDC on AF Unit plug 6 pin 6 then Q12 on the AF Unit board may be shorted Emitter to Collector causing the relay to energize in receive.

Diode D10 between Q12's collector and ground on the AF Unit board could also have failed. D10 is a protection diode that keep the collapsing magnetic field that occurs in RL1's relay coil when power to the relay is removed, from damaging Q12 (switching from xmit to rcv).

D10, a 1S1555, is a silicon diode which can be replaced with a 1N4003 diode.

An NTE-290A is a possible replacement transistor for Q12 if Q12 is found to be defective.

73
Mike W5RKL

On 1/5/2014 5:48 PM, kmx888@... wrote:
>
> I have moved my "known to be good 530S from one part of the country to
> another carefully in my car. When I hook it bak up I get no sound and
> it is producing power when the mode switch is in Tune and CW in both
> the Rec and the Send position. Moving the switch makes no difference
> whatsoever. I also have no sound. Ideas? My mind goes to a relay
> sticking.....
>
> If so which one is it?
> Best
> Kevin
> KD0ILM/XV2KM
>

46854. TS-830 10 meter rx alignment.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-06 13:48:40 UTC
From: <tonrijnen@...>
Topic: 46854 Message: 46854

Hello group, my TS-830 is less sensitive on 10 meter than other bands.
Marker signal is quit weak. I guess this is caused by previous owner who added a part of 11 meter band. Now i like to align and tweak 10 meter. Do i have to align all bands or what specific 10 meter coils should be adjusted?
Thanks in advance.

Ton PA1PXL

46855. Re: : [TS-520_820_530_830] TS830S no bias

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-06 15:11:07 UTC
From: Bob Lazarow
Topic: 46819 Message: 46855

Terry: Thanks for the prompt and informative reply.

My feeling is that having a traumatic experience such as thermal run away MIGHT leave some indication that a quality GM tube tester MIGHT pick up..anything other than "normal" on any of the tests..in the trash!? I would test for any used tube in any service, audio or RF. I agree that If tests are normal, still taking a chance after a thermal....

For various reasons, I still have tube testers....between 10 - 15 at last count!

Bob / WA2JAJ/4??? (moved to NC last week)

-----Original Message-----
From: wagstw46@...

Sent: Jan 5, 2014 10:54 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: Re: : [TS-520_820_530_830] TS830S no bias

?

Bob:

Been years since I owned a tube tester. Had several Hickok units over the years. At one time I did some TV repair and just about anyone who did that had a tube tester. Some used neon lamp and others used an megohm scale on the GM meter to indicate shorts. I prefer to measure parameters rather than see a lamp glow. Not sure what it is telling me. Would always do shorts test first and leakage tests. Would switch between different combinations of elements and if got brite glow of the neon lamp or unacceptable resistance reading would trash the tube and no reason to look at the Gm. As I recall they were particularly good for looking for heater to cathode leakage.?

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leakage in meg-ohms, but most meggars have fixed voltages of 250 or 500 or 1000vdc. I have seen a 5kv meggar (even motor operated so you dont wear out your arm cranking while charging up long runs of cable), but generally the voltage is not continually variable to use for tube testing. More for power cable insulation testing and motor winding polarization index etc. If you were to use a Meggar just have to convert from megohm to ua for meaningful results. 10 ua leakage at 2000vdc is same as 200meg ohm.
Transmitter engineers would be more likely use to seeing leakage expressed in terms of ua as opposed to meg ohms.?

I have heard of people charging up a capacitor on there linear amp Anode supply and using it to "pop" transmitter tubes in lieu of a dc hi-pot. I dont recommend this for obvious reasons!?

Short answer is if you have a tube tester go ahead and use the Shorts test function to check a 6146 that has runaway. I just dont know how meaningful the results will be. What would be an acceptable resistance? To me a new tube should read infinite between control grid and screen grid for example. I would think any glow of the Shorts lamp would be basis to reject the tube. I guess could compare against known good tubes.

Terry K9TW

46856. RE: [TS-520_820_530_830] sticking relay?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-06 06:53:12 UTC
From: <kmx888@...>
Topic: 46847 Message: 46856

I did have the RF gain in the wrong position. That helped my problem with the meter. I have also checked car and checked it throughout it's full range. I am still producing power in both the Rec and the send position and have no sound

46857. TS-820 How to get it back on the air

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-06 16:09:52 UTC
From: Karl Schwab
Topic: 46857 Message: 46857

A ham friend of mine bought a brand new TS-820 when they were first introduced and used it for a few years and then bought a solid state radio. The '820 remained unused from that point on and remains in his well kept basement (dry/clean) as I write this. He offered this radio to me for free this week as he decided that he has no further interest in ever using it and that I could use it and keep it at my son's farm so I don't have to drag my transceiver back and forth. The '820 was in perfect working condition when he last used it.

What precautions should I take before I plug the '820 in the wall? I have a variac, dummy antenna, and years of experience in using tube-type radios. I am sure that this topic has been discussed before, and if I could be directed to it, that would be great.

Thanks to all for your help and comments; de KO8S, Karl

46858. Re: [TS-520_820_530_830] Rejoined Group

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-06 17:14:27 UTC
From: Michael Rolph
Topic: 46829 Message: 46858

Hi Mike
I have done as you suggested and the results as follows
 After tuning up set rf volt control to middle of its travel
Whistled into mic on usb about 10% deflection in rf position
swapped to lsb and repeated test and got about 12% deflection
Just to get a benchmark in cw full scale deflection.
Then I tried pressing the proc button and lo and behold the power came up to about 50% deflection and when I switched it off again power stayed up but on repeating this test several times results varied wit both on and off positions giving good and poor results.
Dont know if this helps identify the problem but suspect there is a problem in that area.
Being dyslexic I am not so good at following the diagrams but am trying to understand how the circuit works.

73 de Mike M0MCY

On Sunday, 5 January 2014, 16:53, "w5rkl@..." <w5rkl@...> wrote:

Mike,

Okay, try using the 830's RF meter switch setting to see if there is any indication of output power.
Also, after you tune the transmitter up, following the transmitter tuning procedures in the operator's manual, set the meter switch to RF then set the rear panel RF VOLT control to the middle of its travel and test transmitter in SUB or LSB. Let us know what the RF meter shows.

73
Mike W5RKL

46859. RE: [TS-520_820_530_830] SO239 panel mount

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-07 00:44:49 UTC
From: fpath fpath
Topic: 46847 Message: 46859

G'day all,

Anyone had any success with the panel mount SO239 and not coming loose? I have the correct notched socket, but the locking nut continually becomes loose, so am interested in what others have done to rectify this annoying minor problem

73s

Dave

VK5PDL

46860. Re: [TS-520_820_530_830] SO239 panel mount

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-07 01:06:35 UTC
From: Ron
Topic: 46847 Message: 46860

U could put locktite on it

Ron KK4PWF

On Jan 6, 2014, at 6:44 PM, fpath fpath <fpath@...> wrote:

>
>
> G'day all,
>
> Anyone had any success with the panel mount SO239 and not coming loose? I have the correct notched socket, but the locking nut continually becomes loose, so am interested in what others have done to rectify this annoying minor problem
>
> 73s
> Dave
> VK5PDL
>
>
>
>

46861. Re: [TS-520_820_530_830] sticking relay?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-07 00:05:15 UTC
From: <kmx888@...>
Topic: 46847 Message: 46861

Mike,
using the instructions you gave, in the rec position (down) I got 0 volts. If I put the position in the send position I got 11.3VDC. I assumed I was supposed to leave plug 6 in place and "back pin" wire 6 for the voltage reading.

Of course after I run the test the radio now acts normally except....when I get it cranked up to about 40 watts in the Tune position the relative RF meter goes full scale. If I pump it up to 100 watts it pegs.

My first problem caused by me having the RF know burned down was operator error for certain. I can't imagine what I am going to cause this. I also know that I was not imagining the radio putting out power in both Send and Rec, but I guess for the moment that is over.
Kevin
KD0ILM/XV2KM

46862. Re: [TS-520_820_530_830] sticking relay?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-07 02:50:27 UTC
From: Joseph Stiles
Topic: 46847 Message: 46862

Kevin,

Check the "RF VOLT" potentiometer on the rear of the rig> it may have gotten turned during your move.

73 Joe
WB7UQU

On Monday, January 6, 2014 6:47 PM, "kmx888@..." <kmx888@...> wrote:

>Mike,
>using the instructions you gave, in the rec position (down) I got 0 volts. If I put the position in the send position I got 11.3VDC. I assumed I was supposed to leave plug 6 in place and "back pin" wire 6 for the voltage reading.
>
>
>Of course after I run the test the radio now acts normally except....when I get it cranked up to about 40 watts in the Tune position the relative RF meter goes full scale. If I pump it up to 100 watts it pegs.
>
>
>My first problem caused by me having the RF know burned down was operator error for certain. I can't imagine what I am going to cause this. I also know that I was not imagining the radio putting out power in both Send and Rec, but I guess for the moment that is over.
>Kevin
>KD0ILM/XV2KM
>
>
>

46863. Re: [TS-520_820_530_830] SO239 panel mount

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-07 00:59:09 UTC
From: Michael Sylvester
Topic: 46847 Message: 46863

It sounds like yours hasn't broken yet, might put a gob of blue locktite on it and it'll snug up as that dries.
Deforming the round shape would help more threads to engage and hold too, i.e. make it more square than round and loctite that bugger.
Michael///KD0WSJ

On , Michael Sylvester <sylvstrmchl@...> wrote:

Brke one the other day, they are apparently junk. Either stripped and won't tighten or the snap and break.
I too need to come up with replacements without buying new so239's to rob the nut off of.
Terry, do you or anybody have a source?
MichaelKD0WSJ

On Monday, January 6, 2014 6:44 PM, fpath fpath <fpath@...> wrote:

G'day all,

Anyone had any success with the panel mount SO239 and not coming loose? I have the correct notched socket, but the locking nut continually becomes loose, so am interested in what others have done to rectify this annoying minor problem

73s
Dave
VK5PDL

46864. Re: [TS-520_820_530_830] sticking relay?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-07 10:47:07 UTC
From: Mike W5RKL
Topic: 46847 Message: 46864

Yes, Kevin, leave the plug in place when measuring the voltage on plug 6 pin 6.

Check the RF VOLT pot, it may be set too high. The RF VOLT adjustment is

I mean no disrespect Kevin so please don't take this the wrong way. The meter's RF setting is controlled by the rear panel RF volt pot (RF Meter) setting. This control is referred to as "RF VOLT" or "RF METER", depending on the operator's manual. This control, regardless of what label it has, does exactly the same thing, rectifies a sampling of the RF output converting it into a DC voltage. The amount of DC voltage that is applied to the RF meter is controlled by the RF VOLT pot. This simple circuit can be seen on the Hybrid's schematic.

73
Mike W5RKL

On 1/6/2014 6:05 PM, kmx888@... wrote:
>
> Mike,
>
> using the instructions you gave, in the rec position (down) I got 0
> volts. If I put the position in the send position I got 11.3VDC. I
> assumed I was supposed to leave plug 6 in place and "back pin" wire 6
> for the voltage reading.
>
>
> Of course after I run the test the radio now acts normally
> except....when I get it cranked up to about 40 watts in the Tune
> position the relative RF meter goes full scale. If I pump it up to 100
> watts it pegs.
>
>
> My first problem caused by me having the RF know burned down was
> operator error for certain. I can't imagine what I am going to cause
> this. I also know that I was not imagining the radio putting out power
> in both Send and Rec, but I guess for the moment that is over.
>
> Kevin
>
> KD0ILM/XV2KM
>
>

46865. Re: [TS-520_820_530_830] SO239 panel mount

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-08 00:02:05 UTC
From: <paw_paw44036@...>
Topic: 46847 Message: 46865

I take the buggers out and replace them with a standard SO-239 and 2 steel pop rivets. Nice and tight and the will not come loose. I use the panel mounts without the nut on the end of a coax to tie to the short piece of coax on the antenna. Then I don't have to bring down all the coax to repair an antenna. Also if you got to a music like Guitar Center and ask them to order you some of the lock nuts for a microphone stand you have the same thread.

Bill WD8OSJ.

46866. TS-830S 9V supply

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-08 01:07:56 UTC
From: Craig Roberts
Topic: 46847 Message: 46866

What could cause instability in a TS-830S's 9V supply (with resultant VFO "warbling")? Mine swings from about 8.6 - 9.3 randomly. The 3.6V readings are steady.

Just wondering :-)

73,

Craig
W3CRR

46867. RE: [TS-520_820_530_830] SO239 panel mount

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-08 01:14:50 UTC
From: fpath fpath
Topic: 46847 Message: 46867

Thanks all for your suggests and remedies. Locktite doe work for a short time, but always comes loose, thats the problem when continually changing out radios when you have too many hybird, LOL. Now what is really too many??

73's

Dave

VK5PDL.

To: TS-520_820_530_830@yahoogroups.com
From: paw_paw44036@...
Date: Tue, 7 Jan 2014 16:02:05 -0800
Subject: Re: [TS-520_820_530_830] SO239 panel mount

I take the buggers out and replace them with a standard SO-239 and 2 steel pop rivets. Nice and tight and the will not come loose. I use the panel mounts without the nut on the end of a coax to tie to the short piece of coax on the antenna. Then I don't have to bring down all the coax to repair an antenna. Also if you got to a music like Guitar Center and ask them to order you some of the lock nuts for a microphone stand you have the same thread.

Bill WD8OSJ.

46868. Re: [TS-520_820_530_830] SO239 panel mount

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-08 01:56:04 UTC
From: Michael Sylvester
Topic: 46847 Message: 46868

"lock nuts for a microphone stand"
That's the kind of answer I was hoping for.
But I also like the utilitarian use of the old part and up grading to a riveted connector.
Thank you Bill.

And to Dave's comment about "How many hybrids is too many?
I think if I won the lottery I'd buy a bigger place and buy all of them I could get.
Sitting with 8 for now, surely not enough.
Michael///KD0WSJ

On Tuesday, January 7, 2014 7:14 PM, fpath fpath <fpath@...> wrote:

Thanks all for your suggests and remedies. Locktite doe work for a short time, but always comes loose, thats the problem when continually changing out radios when you have too many hybird, LOL. Now what is really too many??

73's
Dave
VK5PDL.

To: TS-520_820_530_830@yahoogroups.com
From: paw_paw44036@...
Date: Tue, 7 Jan 2014 16:02:05 -0800
Subject: Re: [TS-520_820_530_830] SO239 panel mount

I take the buggers out and replace them with a standard SO-239 and 2 steel pop rivets. Nice and tight and the will not come loose. I use the panel mounts without the nut on the end of a coax to tie to the short piece of coax on the antenna. Then I don't have to bring down all the coax to repair an antenna. Also if you got to a music like Guitar Center and ask them to order you some of the lock nuts for a microphone stand you have the same thread.

Bill WD8OSJ.

46869. Re: [TS-520_820_530_830] sticking relay?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-08 04:00:14 UTC
From: <kmx888@...>
Topic: 46847 Message: 46869

Mike,
I see no reason to feel disrespected. I am just happy for the information and teaching.
Kevin
KD0ILM/XV2KM

46870. RE: TS-830S 9V supply

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-08 14:13:49 UTC
From: <wagstw46@...>
Topic: 46847 Message: 46870

Craig:

Are you seeing the regulated 9vdc varying at TP-6?

If so, I dont understand how RF-1 would not also be varying proportionally as well?

If you are measuring it at VFB then you may have a dirty mini-din switch in the external VFO connector on rear panel of rig. I clean with deoxit and exercise with a din plug.

Can also be a dirty FIX switch. Try exercising it.

Terry K9TW

46871. RE: sticking relay?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-08 14:44:05 UTC
From: <tjb813@...>
Topic: 46847 Message: 46871

THis may be obvious, But have had the speaker connection plug wires break in side the cable. Try a remote speaker plugged into the speaker jack. I suggest this because I didn't read where any else suggested it.

46872. RE: [TS-520_820_530_830] SO239 panel mount

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-08 14:57:39 UTC
From: <wagstw46@...>
Topic: 46847 Message: 46872

Hi Dave:

As you know the connector is a "D" hole. It is designed for Bulk Head SO-239 connectors.

Most folks do not have or do not fabricate a spanner wrench for the Japanese nut that KW used. They typically resort to tightening the nut using pliers or channel locks or vise grips and usually end up doing the ham-fisted approach of deforming the nut. Seen this a lot and sure dont want any of these back yard mechanics touching any of my radios.

As you know the hole is the standard "D" hole to key the connector to prevent body rotation. You can buy a nice amphenol or american brand D hole bulkhead connector that comes with a nice shoulder on the outside and is secured with an inside star lock washer and heavy hex nut on the inside face of the rear panel. Problem is you cannot get a 6 point socket on this nut as one side of the nut flats is too close to the lip of the back panel. So you need to tighten with an open end wrench which can round off the nut if not careful. They make a special bulk head wrench for this. Sort of like a flat flare nut wrench.

I have installed quite a few "D" thru hole bulk connectors on customer rigs and I use the serrated star lock washer and a little locktite and have no problems after that. I have them on both my daily driver TS-830s.

You can use the standard 4 hole mount connector but you need to drill out the D hole inorder for this connector to lay completely flat against the back panel. Also no room to install the two sets of hardware on the side closest to the back panel lip so would have to use rivets.

I have seen a couple installs where the fellow installed the common 4 hole panel mount connector and didnt drill out the D hole and the connector is cocked on an angle and not flush against the panel and secured with two rivets on diagonal corners. Another ham-fisted cobble job.

It all depends on your idea of craftsmanship and quality. I guess why we have Macys and why we have Walmart. Customer always defines quality.

If I were you I would purchase couple of quality thru hole D mount (Bulkhead) connectors and try them. DX Engineering sells a Bulk Head Wrench or with the metal fab skills that I know you possess can make a nice tight fit flat stock wrench with a slight angle on the handle.

Terry K9TW.

46873. RE: [TS-520_820_530_830] SO239 panel mount

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-08 15:36:36 UTC
From: <wagstw46@...>
Topic: 46847 Message: 46873

Dave:

I forgot to mention the stock DX Engineering wrench does not work well on the inside of the rear panel due to the edge lip interference, but it does work well on the outside if you replace the stock slotted nut. However a good 6 point socket works as well. A two jaw close tolerance flat wrench is what you need for inside hex nut tightening.

Terry K9TW

46874. TS-830S 9V supply

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-08 16:14:44 UTC
From: Craig Roberts
Topic: 46847 Message: 46874

Thanks, Terry.

I did measure the wavering 9V at TP6. I was alerted to the problem of a "warbling" VFO -- especially notable on CW -- after replacing the AF board with a spare*. I did the star washer and extra ground lead installations, for whatever they're worth, so the often mentioned glitchy ground(s) on the AF board is probably not the problem.

* The original board was rife with cracked traces from the Molex headers, most likely due to some rough handling by a former owner. This radio as received by me showed other signs of ham-fisted service, such as the use of non-standard fasteners, including a wood screw (!), in several places. I have put a lot of work into this radio and am left only with this one, annoying anomaly to correct. I have noted a factory approved mod calling for 22K resistors to be added between the collectors and emitters of Q30 and Q34 to improve regulator stability, but the voltage excursion I am experiencing seems too excessive and faulty to respond to that.

73,

Craig
W3CRR

46875. RE: [TS-520_820_530_830] SO239 panel mount

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-08 15:53:48 UTC
From: <w0nta@...>
Topic: 46847 Message: 46875

I have encountered several of the loose SO-239 connectors on the 530 and 830 radios. I have found that a 17mm box end wrench fits the strange nut used by Kenwood. The nut can be tightened very tight using this wrench and does not bugger up the nut. I have not had one come loose after tightening in this manner.

73, Dick, W0NTA

46876. RE: [TS-520_820_530_830] SO239 panel mount

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-08 17:45:03 UTC
From: <wagstw46@...>
Topic: 46847 Message: 46876

Dick:

Thanks for that valuable tip. I never tried a 12 point or metric wrench on any. I spent some time fabing a T-handle spanner wrench needlessly!

In addition to the buggered up condition you describe I do find them deformed and stripped and I replace those with Bulk head connectors.

And I told you not learning much anymore. You need to come out of the shadows more often! Suspect much more you could teach this grass hopper!

Thanks
Terry K9TW

46877. RE: TS-830S 9V supply

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-08 17:54:27 UTC
From: <wagstw46@...>
Topic: 46847 Message: 46877

Craig:

OK I got confused and responded direct to your email.

For others who are interested there is no reason to place 22k resistors in shunt with the series pass transistors. The TS-520 and TS820 use a 68 ohm and 150 ohm series pass shunt resistors for couple of reasons: 1. To allow them to use a cheaper lower rated series pass transistor by sharing the load and 2. To provide for reliable regulator start up by providing some output voltage for the reference voltage stage.

KW changed design with 530/830 and no need for a shunt resistor across the series pass devices.

No reason to do the star lock washer or extra ground wire mod. Thousands of rigs in service operating just fine without doing this mod. Wont hurt, but wont fix VFO problem. Another case of confused cause and effect. Be very wary of performing any of these "KW mods".

What does the 12vdc do? Can you monitor 9vdc and 12vdc with analog voltmeters at same time?

Also, have you tried cleaning and running VR-4 voltage sampler pot thru its range mulitple times?

Could be a bad solder connection?

Terry K9TW

46878. RE: [TS-520_820_530_830] SO239 panel mount

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-08 18:08:47 UTC
From: <wagstw46@...>
Topic: 46847 Message: 46878

Dick:

Maybe we can talk about soldering some time. I often open up a rig to perform a good visual inspection and have to look up to see if a pigeon is flying overhead!

All too common to see solder balls and flash on the boards and chassis not to mention globs upon globs and cold solder joints. The 520s with point to point final socket wiring gets pretty ugly.

Old days local clubs taught soldering to budding Novices with simple projects like code practice oscillators.

Havent looked at You Tube. Maybe there are some good tutorials there?

Just another old mans pet peeve. See it in lots of places in todays world for what passes as workmanship. Problem is apprentice no longer learns trade under tutelage of master craftsman. Not only technique and tricks of the trade were taught, but pride in workmanship was instilled and trades and companies had written standards that had be adhered to.

No hammers or vice grips on my RF bench yet! I do have a 200 watt iron (great for PL-259), but I think I finally threw away the acid core solder!

Terry K9TW

46879. 6146 Arc Over Protection Mod

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-08 20:30:28 UTC
From: <wagstw46@...>
Topic: 46879 Message: 46879

I am writing this to give some added details to my 6146 arc over protection mod that Mark Gilger posted on WB4HFN site. Several people have communicated with me to report they have installed the mod of recent and I just saw a picture today of the neat install that Craig Roberts did on his TS-830. This prompts me to provide these reminders.

1. Do not substitute resistors for the Ohmite Type OY glitch resistors unless the subs are specifically designed to withstand high energy surge current. For example do not install a traditional rectangular sand body power resistor. There are different schools of thoughts about a "glitch" resistor. Some folks want them to be sacrificial and open the anode supply with fault current. That may be OK in grounded grid triode tube amps, but not with a tetrode. We dont want that. We are simply adding some resistance to the HV secondary to limit the fault current to a lower value than just the 5 ohms of cathode meter shunt resistance. With a tetrode we dont want to "fuse" the anode voltage with the screen grid energized as we would damage the finals by exceeding the screen grid dissipation.

2. Some have asked about increasing the value of the resistors. Yes you could go a little higher. However, we do not know the exact total HV secondary resistance (ESR). I would use 250ma for sizing calcs. With 10 ohms at 250ma you are dropping approx 2.5vdc across the resistors at about .6 watts dissipation. At 20 ohms dropping approx 5.0vdc at about 1.25 watts dissipation. Some had asked about using 50 ohms based on seeing this value in high power linears. Remember in this service seeing 2500vdc to 3500vdc anode voltage and far more joules of energy delivery from the filter caps. Suggest you read Eimac Bulletin 17 that does a good job of addressing glitch resistor sizing.

3. Safety Caution: Remember by adding the glitch resistor terminal strip away from the HV filter caps that you have added a new place in the radio for accidental contact with 900vdc.

4. Some people are installing a lexan shield around the glitch resistors to contain the resistors in event of catastrophic failure to contain the shards of ceramic material. This is OK, but again there should be no failure of that kind with these resistors. Could be that kind of failure if you use a different type of power resistor.

5. Craig shortened the MOV leads and heat shrinked them. This is OK.

6. Craig installed the 3 silicon diodes in heat shrink tubing. This is OK. There is no current in normal operation so no heating to worry about and if a diode did pop the heat shrink might contain it.

7. Once again if you install this mod remember it was never intended to protect against thermal runaway. Best protection there is to ensure you have a good clean bias voltage adjust pot.

8. You must understand that there was no dynamic testing of this mod. I did not intentionally jumper 900vdc to the cathode pin of the tube socket to see if the transformer primary fuse would blow and the 5 ohm cathode meter shunt resistors would remain intact. That is what the design is intended to accomplish.

Lastly, I cannot guarantee that your panel meter or other components will not be damaged in the event of future tube arc over events that you may experience post mod installation. Hopefully, the worst you should experience is a blown fuse.

Thanks to those who wrote and shared pictures. I would be most interested in hearing about any experiences you have with post mod arc overs. Hopefully none!

Terry K9TW

46880. Re: TS-830S 9V supply

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-08 20:45:26 UTC
From: clifford wright
Topic: 46847 Message: 46880

Hi Craig. Some years ago I was very dissatisfied with the same 9 volt supply.
As a result I replaced the whole thing with an LM317 regulator IC. Much simpler, easily variable voltage and far fewer components to go wrong.
It has never missed a beat since.
ZL1BDA.

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

46881. TS-830S 9V supply FIXED

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-08 23:51:00 UTC
From: Craig Roberts
Topic: 46847 Message: 46881

As Terry suggested, VR4 on the AF board -- which controls the 9V power supply output -- was indeed dirty. Some judicious cleaning and exercising of this little trim pot cured my "warbling VFO" problem. The TS-830S's frequency is now free of wild excursions and its normal, steady warm-up drift is nearly absent (fewer than 100 Hz in the first 15 minutes and rock steady in the 45 minutes since).

As is often the case, the causes of our radios' malfunctions are less than catastrophic. This glitch was so simple in its origins that it escaped me (something else that is often the case). I am especially embarrassed in this instance since one of my Drake TR-7s had demonstrated a similar fault. The cause? A dirty trim pot in the radio's low voltage supply!

Thanks again, Terry!

73,

Craig
W3CRR

46882. RE: TS-830S 9V supply FIXED

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-09 01:30:41 UTC
From: <wagstw46@...>
Topic: 46847 Message: 46882

Craig:

Always nice when you do not have to pull a board. We are lucky that active devices are probably last on the list of root cause of hybrid failures. Speaks to the design and the quality of the devices that KW engineers speced.

This is a very mature series regulator with feedback circuit and pretty trouble free.

A lot of times people rush to replace the reference zener D25 with no good reason. If it shorts then the output voltage will usually go very low perhaps around 1vdc and if its bias current resistor R127 goes open then there will be no regulation. If R127 shorts then likely that D25 will be destroyed.

Even a 3 terminal regulator requires a resistive voltage divider on the output and one of those has to be a trim pot if you want to adjust the output voltage.

Terry K9TW

46883. Unstable 9V on the AF-AVR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-09 13:39:39 UTC
From: <linutas@...>
Topic: 46883 Message: 46883

Hi group,

I am having very bad vfo drifting and i found that the 9V on the AF1 pin 1 is unstable and when i can see the voltage drifting i also see the signals in my computer drifting the same way.

I read that an option is to change the 2SA496 transistor in the board, but here in Europe its very hard to get them. I found two sources, one from UK other from USA, but both very expensive (for such an item) to be delivered. And after all it may not be the transistor.

Maybe its another problem ? Maybe there are substitutes?

Thanks
LY5AT

46884. Re: [TS-520_820_530_830] Unstable 9V on the AF-AVR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-09 14:26:58 UTC
From: Mike W5RKL
Topic: 46883 Message: 46884

Linas,

If you find Q7 on the 820's AF AVR Unit board (2SA496(Y)) is bad/needs to be replaced, let me know, I have a few "new" 2SA496(Y). I also have a few new 1N5234B, 6.2 Volt 1/2 watt zener diode, to replace D5 (WZ-061) on the AF AVR Unit board.Make sure you need Q7 and/or D5 first. No need to replace either one if they are not bad.

Mike W5RKL

On 1/9/2014 7:39 AM, linutas@... wrote:
>
> Hi group,
>
> I am having very bad vfo drifting and i found that the 9V on the AF1
> pin 1 is unstable and when i can see the voltage drifting i also see
> the signals in my computer drifting the same way.
>
> I read that an option is to change the 2SA496 transistor in the board,
> but here in Europe its very hard to get them. I found two sources, one
> from UK other from USA, but both very expensive (for such an item) to
> be delivered. And after all it may not be the transistor.
>
> Maybe its another problem ? Maybe there are substitutes?
>
> Thanks
> LY5AT
>
>

46885. RE: [TS-520_820_530_830] Unstable 9V on the AF-AVR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-09 14:46:58 UTC
From: Rick Klinge
Topic: 46883 Message: 46885

I think the NTE374 crosses to the 2SA496Y if that helps..

73

Rick

AC0TT

From: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com] On Behalf Of linutas@...
Sent: Thursday, January 09, 2014 7:40 AM
To: TS-520_820_530_830@yahoogroups.com
Subject: [TS-520_820_530_830] Unstable 9V on the AF-AVR

Hi group,

I am having very bad vfo drifting and i found that the 9V on the AF1 pin 1 is unstable and when i can see the voltage drifting i also see the signals in my computer drifting the same way.

I read that an option is to change the 2SA496 transistor in the board, but here in Europe its very hard to get them. I found two sources, one from UK other from USA, but both very expensive (for such an item) to be delivered. And after all it may not be the transistor.

Maybe its another problem ? Maybe there are substitutes?

Thanks
LY5AT

46886. RE: Unstable 9V on the AF-AVR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-09 16:37:05 UTC
From: <wagstw46@...>
Topic: 46883 Message: 46886

Q7 could be bad but just guessing at this point. Before you pull the AVR board and replace series pass transistor do one or both of the following:

1. Clean output voltage sample trim pot VR-4 with Deoxit and run thru range several times and blow out with canned air. Reset the voltage at Conn AF-1 to 9.0vdc.

2. Measure/monitor with a DMM the voltage at the cathode of reference zener D5 and at the wiper of output voltage sampler pot VR-4. With wiper at center of range the voltages should be exactly the same and should be very stable. Very easy to access both places on the board. Should see something on order of 5.950vdc to 6.150vdc at both places. Anything around this value as long as both are the same and stable.

The way this thing works is Q1/Q5 are configured as long tail pair differential amp with Q1 serving as emitter follower and Q5 as the gain amp. Together they form a Comparator with zener reference input and output voltage sample input. If there is any slight difference between these two voltages an error voltage is produced. That error signal is amplified by Error amp Q6 and applied to base of series pass Q7 which changes its degree of conduction or series resistance that it offers. If the voltage at wiper of VR-4 is floating around then 9vdc output will follow.

Terry K9TW

46887. Re: [TS-520_820_530_830] Unstable 9V on the AF-AVR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-09 16:54:03 UTC
From: Craig Roberts
Topic: 46883 Message: 46887

Hello Linas,

Before doing anything else, try cleaning VR4 on the AF board. It is the trimmer that controls the 9V power supply output. At Terry's suggestion, I did this on my TS-830S last night. and it not only cured a continuous VFO instability problem, but reduced overall VFO drift dramatically. My radio is now essentially drift free after about 15 minutes. It is nearly as steady as my TS-530S in which I installed a "huff 'n puff" VFO stabilizer.

73,

Craig
W3CRR

46888. Re: [TS-520_820_530_830] Unstable 9V on the AF-AVR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-09 14:36:27 UTC
From: linutas
Topic: 46883 Message: 46888

Thank you for responding Mike,

I am not very experienced on this rig, all im able to do is read around and try to to the same as others wrote. In order to test the the transistor should i take it out and measure it with a multimeter or is there another way?

I also tried to exercise the pot that adjusts the 9v voltage, did not seem to help to stabilize it.

Thanks.

2014/1/9 Mike W5RKL <w5rkl@...>

>
>
> Linas,
>
> If you find Q7 on the 820's AF AVR Unit board (2SA496(Y)) is bad/needs to
> be replaced, let me know, I have a few "new" 2SA496(Y). I also have a few
> new 1N5234B, 6.2 Volt 1/2 watt zener diode, to replace D5 (WZ-061) on the
> AF AVR Unit board. Make sure you need Q7 and/or D5 first. No need to
> replace either one if they are not bad.
>
> Mike W5RKL
>
>
>
> On 1/9/2014 7:39 AM, linutas@gmail.com wrote:
>
>
>
> Hi group,
>
> I am having very bad vfo drifting and i found that the 9V on the AF1 pin 1
> is unstable and when i can see the voltage drifting i also see the signals
> in my computer drifting the same way.
>
> I read that an option is to change the 2SA496 transistor in the board, but
> here in Europe its very hard to get them. I found two sources, one from UK
> other from USA, but both very expensive (for such an item) to be delivered.
> And after all it may not be the transistor.
>
> Maybe its another problem ? Maybe there are substitutes?
>
> Thanks

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> LY5AT
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46889. Re: [TS-520_820_530_830] Unstable 9V on the AF-AVR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-09 18:54:46 UTC
From: Mike W5RKL
Topic: 46883 Message: 46889

Linas,

As I said, replace Q7 and/or D5 ONLY if they are found to be bad. I recommend you follow Terry's advice.

73
Mike W5RKL

On 1/9/2014 8:36 AM, linutas wrote:
> Thank you for responding Mike,
>
> I am not very experienced on this rig, all im able to do is read
> around and try to to the same as others wrote. In order to test the
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>
> 2014/1/9 Mike W5RKL <w5rkl@... <mailto:w5rkl@...>>
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>>
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>>
>> Thanks
>> LY5AT
>>
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>
>

46890. Re: [TS-520_820_530_830] Unstable 9V on the AF-AVR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-09 19:50:07 UTC
From: <wagstw46@...>
Topic: 46883 Message: 46890

Linas

Mike and I work very hard to try to help people to troubleshoot these rigs to find the problem and to replace only parts that are bad and not just "easter egg" or "shot gun" the repair. I missed that he told you to only replace pass transistor and zener reference if found to be bad. Question then becomes how do you make that determination.

Not picking on you but I am beginning to wonder if in some cases it might be faster and easier to have folks just remove the board and replace all the active devices. In the case of an AVR we are talking about 4 transistors and one diode. After all they are 30 to 35 year old devices. If cleaning of connectors and pots do not restore function might be best to just pull board and replace suspect parts? Assumes you want to leave rig in stock config which I recommend.

As to transistor testing several approaches:

1. Take transistor EBC voltages if you can get access to the device leads, but you need to be able to interpret what those readings mean. Have to recognize when BE junction is forward biased, when transistor is saturated etc. Can compare to the voltages noted on schematic but only as a starting point. Not always correct.

2. Can do turn on and turn off tests in circuit, but have to understand transistor lead configuration and be able to get on EBC leads. To turn off transistor need to use mini or micro grabber test leads and jump from Base to Emitter as you monitor Collector voltage. If device is capable of being turned off Collector voltage will rise toward supply. To turn on a transistor use same micro grabber leads and insert a 10k series resistor and jumper from Collector to Base while monitoring Collector voltage and if device can be biased on the voltage will drop. These turn on and turn off test need to be practiced on a bread board to learn how to do it and interpret the results. If can turn a transistor on and off it means it is not shorted or open and will likely work in circuit. Doesnt tell anything about leakage and how well it will work at RF.

3. Can purchase in circuit testers that will work about 75% of the time. The old Sencore Cricket was pretty good. May be better testers today that I am unfamiliar with. Again need to be able to access the transistor leads and not always possible from component side of KW hybrid boards.

4. As you mention can remove device from the board and perform ohm meter back to back testing on all junctions. If you have gone this far might want to just install replacement device?

So again depending on the persons knowledge, experience, and test gear it may be easier and faster to just remove the board and replace the relevant devices.

With experience the AVR board is very easy to power up outside the rig and load test before re-installing back in the rig to verify the new devices fixed the problem.

I am struggling trying to decide what is the best counsel. Of course it varies from person to person.

It sounds like you cleaned VR-4 and saw no improvement. I would like to see voltage at wiper and at reference zener before you pull the board, but that is up to you.

Terry K9TW

46891. Re: [TS-520_820_530_830] Unstable 9V on the AF-AVR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-09 20:05:13 UTC
From: Craig Roberts
Topic: 46883 Message: 46891

The wholesale replacement of possibly faulty parts without sometimes complex and equipment-necessitating testing is still a step away from the military approach: replace the whole board (or the whole radio).

If circuit board component swapping is anticipated on a regular or semi-regular basis, purchase of a K9TW-endorsed Hakko 808 desoldering kit is highly recommended. As I enthused just after I acquired mine a few days ago -- what a great addition to any tinkerer's shack! I'm having such fun with mine that I am almost hoping for radio problems to crop up. (I suspect I will outgrow this phase shortly, however).

Best of luck, Linas. Keep us posted.

73,

Craig
W3CRR

46892. Re: [TS-520_820_530_830] Unstable 9V on the AF-AVR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-09 20:12:22 UTC
From: W LEWIS
Topic: 46883 Message: 46892

I've had my 808 for over a year and the fun is still present. I'm always looking for a reason to use it.
73,
Butch
KØPSA

From: Craig Roberts <crgrbrts@...>
To: TS-520_820_530_830@yahoogroups.com
Sent: Thursday, January 9, 2014 2:05 PM
Subject: Re: [TS-520_820_530_830] Unstable 9V on the AF-AVR

The wholesale replacement of possibly faulty parts without sometimes complex and equipment-necessitating testing is still a step away from the military approach: replace the whole board (or the whole radio).

If circuit board component swapping is anticipated on a regular or semi-regular basis, purchase of a K9TW-endorsed Hakko 808 desoldering kit is highly recommended. As I enthused just after I acquired mine a few days ago -- what a great addition to any tinkerer's shack! I'm having such fun with mine that I am almost hoping for radio problems to crop up. (I suspect I will outgrow this phase shortly, however).

Best of luck, Linas. Keep us posted.

73,

Craig
W3CRR

46893. Re: [TS-520_820_530_830] Unstable 9V on the AF-AVR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-09 20:34:50 UTC
From: Mike W5RKL
Topic: 46883 Message: 46893

Terry and Linas,

No problem Terry, just wanted to ensure Linas understood that even though I have the original Q7 transistor and 6.2 volt Zener diode for D5 that he should not replace a component without ensuring either component needs to be replaced. As you eluted to Terry, and I agree, all too often people tend to replace a component that is not defective.

Linas, looking at Q7, with the heat sink facing away from you, at the rear of the transistor, the pin labels are from left to right, Emitter, Collector, Base.

Also, Linas, you said you adjusted VR-4 and it made no difference in the 9VDC, I assume you meant at plug AF1 pins 1 and 2 on the AF AVR Unit board. If that's true then either VR-4 is bad or it's very dirty/corroded and the wiper is not making contact with the fixed resistive element on VR4.

Another issue Linas, look closely at VR4, are you sure you are adjusting VR4? VR4 is in the middle of the AF AVR Unit board. It's easy to mistakenly adjust VR3 which is situated close to VR4. VR3 is the CW sidetone input level to the audio amplifier on the AF AVR Unit board. When VR3 is adjusted it raises or lowers the CW side tone you hear in the speaker when operating CW.

73
Mike W5RKL

On 1/9/2014 1:50 PM, wagstw46@... wrote:
>
> Linas
>
>
> Mike and I work very hard to try to help people to troubleshoot these
> rigs to find the problem and to replace only parts that are bad and
> not just "easter egg" or "shot gun" the repair. I missed that he told
> you to only replace pass transistor and zener reference if found to be
> bad. Question then becomes how do you make that determination.
>
>
> Not picking on you but I am beginning to wonder if in some cases it
> might be faster and easier to have folks just remove the board and
> replace all the active devices. In the case of an AVR we are talking
> about 4 transistors and one diode. After all they are 30 to 35 year
> old devices. If cleaning of connectors and pots do not restore
> function might be best to just pull board and replace suspect parts?

> Assumes you want to leave rig in stock config which I recommend.
>
>
> As to transistor testing several approaches:
>
>
> 1. Take transistor EBC voltages if you can get access to the device
> leads, but you need to be able to interpret what those readings mean.
> Have to recognize when BE junction is forward biased, when transistor
> is saturated etc. Can compare to the voltages noted on schematic but
> only as a starting point. Not always correct.
>
>
> 2. Can do turn on and turn off tests in circuit, but have to
> understand transistor lead configuration and be able to get on EBC
> leads. To turn off transistor need to use mini or micro grabber test
> leads and jump from Base to Emitter as you monitor Collector voltage.
> If device is capable of being turned off Collector voltage will rise
> toward supply. To turn on a transistor use same micro grabber leads
> and insert a 10k series resistor and jumper from Collector to Base
> while monitoring Collector voltage and if device can be biased on the
> voltage will drop. These turn on and turn off test need to be
> practiced on a bread board to learn how to do it and interpret the
> results. If can turn a transistor on and off it means it is not
> shorted or open and will likely work in circuit. Doesnt tell anything
> about leakage and how well it will work at RF.
>
>
> 3. Can purchase in circuit testers that will work about 75% of the
> time. The old Sencore Cricket was pretty good. May be better testers
> today that I am unfamiliar with. Again need to be able to access the
> transistor leads and not always possible from component side of KW
> hybrid boards.
>
>
> 4. As you mention can remove device from the board and perform ohm
> meter back to back testing on all junctions. If you have gone this far
> might want to just install replacement device?
>
>
> So again depending on the persons knowledge, experience, and test gear
> it may be easier and faster to just remove the board and replace the
> relevant devices.
>
>
> With experience the AVR board is very easy to power up outside the rig
> and load test before re-installing back in the rig to verify the new
> devices fixed the problem.
>
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> I am struggling trying to decide what is the best counsel. Of course
> it varies from person to person.
>
>
> It sounds like you cleaned VR-4 and saw no improvement. I would like
> to see voltage at wiper and at reference zener before you pull the
> board, but that is up to you.
>
>
> Terry K9TW
>
>

46894. Re: [TS-520_820_530_830] Unstable 9V on the AF-AVR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-09 20:12:47 UTC
From: linutas
Topic: 46883 Message: 46894

Terry

Thank you for all the very useful info, my friend in the Netherlands will help me , if i wont be able to do it myself , realize the tips given here. You got to understand that my electronics knowledge is very basic compared to all of you since i am 17 years old, i read here in the groups that the transistor is usually the thing that causes such drifting vfo instability, that is why it made sense to me to get the transistor and at least try. This being my first and only, donated , rig i want to have it working.

I am not yet doing anything, removing boards or transistors, i will first check maybe its just oxidation on the pot because i didint have anything like deoxit to spray on it. Then i will try to measure the voltages as you said in the previous post.

Linas LY5AT

2014/1/9 <wagstw46@...>

>
>
> Linas
>
>
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>

>
>

46895. Re: [TS-520_820_530_830] Unstable 9V on the AF-AVR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-09 20:41:57 UTC
From: linutas
Topic: 46883 Message: 46895

It did make difference to the actual voltage, not to the stability of it, what is what i wanted to say. I exercised it a couple of times turning it, then i put it back near 9,1v .

LY5AT Linas

2014/1/9 Mike W5RKL <w5rkl@yahoo.com>

>
>
> Terry and Linas,
>
> No problem Terry, just wanted to ensure Linas understood that even though
> I have the original Q7 transistor and 6.2 volt Zener diode for D5 that he
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> level to the audio amplifier on the AF AVR Unit board. When VR3 is adjusted
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> Mike W5RKL
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> On 1/9/2014 1:50 PM, wagstw46@... wrote:
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> Linas
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> Terry K9TW
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46896. Re: [TS-520_820_530_830] Unstable 9V on the AF-AVR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-09 21:22:13 UTC
From: <w5rkl@...>
Topic: 46883 Message: 46896

Okay, thanks Linas, let us know how thing work out when you and your friend in the Netherlands work on the problem.

73
Mike W5RKL

46897. Re: [TS-520_820_530_830] Unstable 9V on the AF-AVR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-09 21:35:10 UTC
From: <wagstw46@...>
Topic: 46883 Message: 46897

Linas:

Sure wish we had a means on this forum where we could Show and Observe as well as Tell.

I remember being 17 believe it or not in 1963! I had been a ham for 3 years and played with electronics since I was about 10 years old. I did not own a sophisticated high performance transceiver like a Kenwood TS-820 and internet did not exist and no technical forums like this one. About best you could do back in that day was go to local ham club and seek help or perhaps if lucky have a close by elmer or mentor.

You will find that with many problems that you encounter with your TS-820 there will be many recommendations to replace a particular component. For example, if you have weak or no receive someone might suggest that you replace the RF amp dual gate mosfet on the RF board. You never want to follow that kind of advice. Well intentioned, but often very misguided.

Make sure you download copy of the 820 service manual if you have not already done so. Also, can get some nice high resolution schematics on K4EAA Website. The circuit descriptions along with the block diagram is good place to start your study.

There is one other thing you can do and that is swap boards. I dont know about availability where you live but stateside easy to buy spare boards. I have spare AVR board but must hang on to it as I service these radios. Also see them on Ebay being parted out.

I think Mike is in better position to help you troubleshoot your AVR board and he apparently has spare parts available. I will monitor and if you get stuck perhaps I can help if needed, but you are in very good hands with Mike.

Terry K9TW

46898. new tube info

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-09 22:09:30 UTC
From: Joseph Stiles
Topic: 46898 Message: 46898

Greetings Group,

A group member has asked this to be posted. It has some interesting info regarding final amplifier tubes and, some other interesting info from a radio club south of the equator.

73 Joe
WB7UQU

[Non-text portions of this message have been removed]

46899. Re: [TS-520_820_530_830] new tube info

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-09 22:20:53 UTC
From: Joseph Stiles
Topic: 46898 Message: 46899

Greetings Group,

I guess my prior attempt failed...I do radio...not computer...the file in question should be available soon in the "files" section. You should be getting a automated msg about a file
being uploaded.

If, for some reason I screwed up...please feel free to contact: me or, John - ZS1WJ, who was the one who initially contacted me...about a direct information exchange.

.....I'm only human

73 Joe

WB7UQU

On Thursday, January 9, 2014 2:09 PM, Joseph Stiles <stilesjoseph@...> wrote:

>Greetings Group,
>
> A group member has asked this to be posted. It has some interesting
>info regarding final amplifier tubes and, some other interesting info
>from a radio club south of the equator.
>
>
>73 Joe
>WB7UQU
>
>[Non-text portions of this message have been removed]
>
>
>
>
>

46900. TS830S Unstable on 10M - no output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-09 23:05:18 UTC
From: <dlacroix@...>
Topic: 46900 Message: 46900

While preparing my old friend for sale I loaded up into all bands on a dummy. I never used anything but 15 and 20 M when I had it in service. So all bands loaded nicely until I got to 10M. At that point I had trouble getting ALC indication. It would come up grudgingly but then drop to zero almost immediately. No RF output either. What can I check?

46901. Re: [TS-520_820_530_830] Unstable 9V on the AF-AVR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-09 23:41:30 UTC
From: Dave
Topic: 46883 Message: 46901

Terry,
Have you tried Skype for live help?
Web cams are cheap and the comms are 'free'.
Tablets and i-phones also good.

I would recommend that our friend with the unstable 9V buys some Deoxit-d5, applies a drop and then works the pot.
Dave f4eyk

Dave f4eyk

46902. Fw: AWA Newsletter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-10 00:11:02 UTC
From: Joseph Stiles
Topic: 46902 Message: 46902

Greetings Group...again

  either I screwed up(again) or Yahoo is v e r y slow. So , below are the original msgs forwarded for your viewing pleasure.

  TNX to John-ZS1WJ- n- Andy-ZS6ADY

  If, for some reason there is a problem...chew my arse...not theirs.

73 Joe
WB7UQU
TS-520....etc Group Co-owner

On Thursday, January 9, 2014 6:44 AM, john <zs1wj@mweb.co.za> wrote:

>Hi Joe,
>I read a lot of the posts that are put on the group forum and have seen a few that have encountered
>Problems with NOS tubes, a good article appeared in our AWA newsletter and I figured that you
>May want to circulate it on the forum.
>Wishing all you guys a very prosperous 2014 - I really enjoy reading the resolutions to various problems
>On the Hybrids. I have a collection of all the Kenwoods, 101's, Hi Gain 3750 plus a lot of the Collins stuff.
>Best 73 to all
>De John ZS1WJ
>
>
>
>
>-------Original Message-------
>
>From: Andy
>Date: 12/28/13 22:12:26
>To: Andy
>Subject: AWA Newsletter
>
>Compliments of the season.
>Attached is the December Newsletter
>
>Best 73
>
>Andy ZS6ADY
>
>

>
>
>

[Non-text portions of this message have been removed]

46903. RE: [TS-520_820_530_830] SO239 panel mount

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-10 00:12:09 UTC
From: fpath fpath
Topic: 46847 Message: 46903

Thanks Dick,

Whilst I do get them tight am very cauious of over tighening and stripping. I think It might be my gorrila grip when I put the PL259 on. I have the correct socket, I'd use a torque wrench if I new the strength, I may try a spring washer under this particular troublesome rig.

As Terry said, you could teach us all a new thing or two

Best 73's

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: wagstw46@yahoo.com
Date: Wed, 8 Jan 2014 09:45:03 -0800
Subject: RE: [TS-520_820_530_830] SO239 panel mount

Dick:

Thanks for that valuable tip. I never tried a 12 point or metric wrench on any. I spent some time fabing a T-handle spanner wrench needlessly!

In addition to the buggered up condition you describe I do find them deformed and stripped and I replace those with Bulk head connectors.

And I told you not learning much anymore. You need to come out of the shadows more often! Suspect much more you could teach this grass hopper!

Thanks
Terry K9TW

46904. Re: [TS-520_820_530_830] Unstable 9V on the AF-AVR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-10 00:35:21 UTC
From: <wagstw46@...>
Topic: 46883 Message: 46904

Hi Dave:

Yes I Skype regularly with grandkids. I have a nice Logitech camera. I have also have done so off the Hybrid reflector helping couple of fellows on a pretty regular basis with their KW hybrid issues. Works pretty well.

However, I was talking about that kind of ability on the reflector.

We told him to Deoxit the trim pot and exercise it and reset the 9vdc. Not sure if he did anymore than exercise it thru its range?

Terry

46905. RE: [TS-520_820_530_830] SO239 panel mount

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-10 00:41:39 UTC
From: fpath fpath
Topic: 46847 Message: 46905

Thanks Terry,

I have an actual KW spanner and a socket that tightens them perfectly with no slipping or rounding of corners. As you know I'm very anal about OEM standards so can't drill the rear panel and be happy. It is only one 830 that is the issue, the thread is good. I have just ordered a couple so hopefully they'll arrive in a few weeks just in time for the radio change over again LOL.

Sure hope your not suffering too must with that Ploar Vortex, didnt they make a movie about that? Think Denis Quaid was in it.

Bets 73's

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: wagstw46@...
Date: Wed, 8 Jan 2014 06:57:39 -0800
Subject: RE: [TS-520_820_530_830] SO239 panel mount

Hi Dave:

As you know the connector is a "D" hole. It is designed for Bulk Head SO-239 connectors.

Most folks do not have or do not fabricate a spanner wrench for the Japanese nut that KW used. They typically resort to tightening the nut using pliers or channel locks or vise grips and usually end up doing the ham-fisted approach of deforming the nut. Seen this a lot and sure dont want any of these back yard mechanics touching any of my radios.

As you know the hole is the standard "D" hole to key the connector to prevent body rotation. You can buy a nice amphenol or american brand D hole bulkhead connector that comes with a nice shoulder on the outside and is secured with an inside star lock washer and heavy hex nut on the inside face of the rear panel. Problem is you cannot get a 6 point socket on this nut as one side of the nut flats is too close to the lip of the back panel. So you need to tighten with an open end wrench which can round off the nut if not careful. They make a special bulk head wrench for this. Sort of like a flat flare nut wrench.

I have installed quite a few "D" thru hole bulk connectors on customer rigs and I use the serrated star lock washer and a little locktite and have no problems after that. I have them on both my daily driver TS-830s.

You can use the standard 4 hole mount connector but you need to drill out the D hole inorder for this connector to lay completely flat against the back panel. Also no room to install the two sets of hardware on the side closest to the back panel lip so would have to use rivets.

I have seen a couple installs where the fellow installed the common 4 hole panel mount connector and didnt drill out the D hole and the connector is cocked on an angle and not flush against the panel and secured with two rivets on diagonal corners. Another ham-fisted cobble job.

It all depends on your idea of craftsmanship and quality. I guess why we have Macys and why we have Walmart. Customer always defines quality.

If I were you I would purchase couple of quality thru hole D mount (Bulkhead) connectors and try them. DX Engineering sells a Bulk Head Wrench or with the metal fab skills that I know you possess can make a nice tight fit flat stock wrench with a slight angle on the handle.

Terry K9TW.

46906. RE: [TS-520_820_530_830] SO239 panel mount

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-10 01:29:01 UTC
From: <wagstw46@...>
Topic: 46847 Message: 46906

Dave

It is not being anal to not want to needlessly chop and hack on your radios. I agree would never drill out the stock punched D hole to allow a 4 hole chassis mount connector. Just as I would never mount one that was not flush against the back panel so it rules out the common 4 hole connectors for me.

I just installed much nicer and heavier bulk head connectors on my two 830s. Only a KW hybrid aficionado would notice the difference.

Been around -25C for a week here and 3 foot of snow on the level. Suppose to be 4.5C on Saturday so now folks will have problems with flooded basements as ground is frozen and no place for the melting snow to go. Great fun!

Terry K9TW

46907. RE: TS830S Unstable on 10M - no output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-10 01:35:09 UTC
From: <james27613@...>
Topic: 46900 Message: 46907

hi,

these fine radios don't like to sit idle, even if you use only a few bands,
please clean the band switches using Deoxit or your favorite brand contact cleaner,
be sure to use the smallest amount and avoid getting the cleaner on the wafers,
they will wick it up.

73 james ke4drn

46908. Unstable 9V on the AF-AVR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-10 09:01:48 UTC
From: Wes Will
Topic: 46883 Message: 46908

On 01/09/2014 02:41 PM, linutas wrote:
>
>
> It did make difference to the actual voltage, not to the stability of
> it, what is what i wanted to say. I exercised it a couple of times
> turning it, then i put it back near 9,1v .
>
> LY5AT Linas

A friend of mine (who is not a radio amateur) gave me some information for you.

For "DeOxit D5" you probably want

"Tuner 600" from "Kontakt Chemie"

That should be an equally-good contact and control cleaner spray. DeOxit does not seem to be readily available. My friend uses this "Tuner 600" spray for cleaning guitar amplifier controls. Not quite the same sort of equipment, but the general procedure is the same.

BE SURE TO REMOVE THE POWER FROM THE RADIO! These chemical cleaners can catch on fire quite easily, and you risk getting burned, or burning your radio, or even your whole house. Easy to avoid this, just pull the plug from the mains supply socket.

Use a small amount of the spray applied to the openings you see in the VR-4 control. A little goes a long way. It does not need to flow out like a small river.

While it is still wet inside there, turn the control back and forth several times, through the entire range of motion, nearly a full 360 degrees.

Repeat the process once more, with another small amount of "Tuner 600" spray, and again, rotate the potentiometer from one stop to the other, several times.

The spray will loosen any dirt, corrosion, or other contamination, and turning the control will push it away with the liquid solvent chemicals to wash it off of the moving 'wiper' part of the potentiometer.

After you have done the cleaning procedure two times, spray VR-4 with 'canned air' to push out as much of the liquid "Tuner 600" as you can, and then allow it to sit until it is completely dry.

Do not apply power until the cleaner spray chemicals are all gone, This is to avoid that fire hazard, if there is a spark from a control or

switch when you power the radio back on, it could catch the whole thing on fire. We DO NOT want that. It is just too embarrassing. (Not to mention very expensive to replace a whole house.)

Once it is dry, put it together, plug it back in, and check the voltages. I hope that is all it needs.

Geluk!

--
Wes Will
N9KDY

46909. RE: Unstable 9V on the AF-AVR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-10 11:43:53 UTC
From: <wagstw46@...>
Topic: 46883 Message: 46909

VR-4 is an open PC board vertical mount carbon trace trimmer pot. It is not metal can or plastic case enclosed.

No need to spray it at all. Just use couple of small drops of DeOxit D100L using the applicator that comes with it or spray small amount of D5 in a pill bottle and dip artist brush in and transfer drop or two to the trim pot.

After exercising and blowing off with canned air I like to apply couple of drops of DeOxit Fader Type F Lube as it is made for lubricating carbon trace controls. It comes with a needle applicator which lasts much longer than spray.

If DeOxit is unavailable there lots of other brands of contact cleaners that are favorites of repair and restoration folks from various trades as Will suggests.

I have never looked in to availability of Cermet or Metal film trimmers to replace these carbon controls.

Terry K9TW

46910. RE: TS830S Unstable on 10M - no output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-10 11:53:25 UTC
From: <wagstw46@...>
Topic: 46900 Message: 46910

1. Did you try with CAR Level pot advanced full CW (should not normally be required on a TS-830)
2. Simple first step is try another 12BY7A driver tube.

3. Try peaking just the 10 meter drive coil on RF board. See page 27 of maintenance section of your operating instruction manual.

If none of this works come back for more help.

Terry K9TW

46911. Drive level TS520s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-10 11:43:05 UTC
From: <peterlake2003@...>
Topic: 46911 Message: 46911

Hi firstly I would like to thank everybody who helped me with the Keying problem I had with this radio, after changing Q8 and the relevant diode on the VOX board the PTT and VOX now work as they should.
I now have what appears to be low drive when I go to transmit, I have to have the CAR control at its full setting to get 3/4 Scale deflection on the meter, I have gone through the alignment procedure in the manual on all stages except the balanced modulator, so what I am asking is :-
1 Will the balanced modulator effect the amount of carrier present?
2 Should I be suspect of the Driver valve (This has developed a blue glow on TX)?
The radio is transmitting with an output level of about 85 Watts at 14.175 (Measured into a dummy load)
Many thanks
Peter G8ZZL

46912. am filter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-10 11:50:46 UTC
From: <ct61dim@...>
Topic: 46912 Message: 46912

Hello ,
i want to put in my ts 830s one filter for AM tipe CFW 456,5 HT to have only receiver on it .Where can i give one for sent? I,ll apreciate if someone help me whith info .Best regards

46913. TS-830 DDS VFO and panadapter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-10 14:36:11 UTC
From: <cocobean64@...>
Topic: 46913 Message: 46913

Hello everyone,

Thought I'd share my project as there may be others interested in this as well. It is not 100% completed yet, but looks pretty good up till this point.

I love the older hybrids and also a panadapter function, but since there is no connection pc to radio, the panadapter software is kind of bleh....

What I've done is take some existing ideas (DDS VFO) and "customized" it to suit my needs. The hardware consists of an Arduino micro controller with an AD9850, an encoder,20x4 digital display, a 12 position wafer switch and a couple of toggle and push buttons.LP-Pan 2.

Base software is available on the net and modified accordingly to my taste.

The DDS VFO will supply the VFO signal to the radio (now done by the analog VFO)
Goals are:
Minimal changes to the radio, make it as much "plug and play" as possible.
- Interface the DDS VFO with the PC using NaP3 panadapter software.
- Obtain band information from the radio via extra wafer switch.
- Obtain mode information from the radio
- Obtain Rx/Tx state from the radio

Since we're using a DDS VFO..
- Select VFO A or B
- Work split frequency's
- Point and "click" on the Nap3 software to change frequency.
- The LCD will display the VFO A and or VFO B frequencies, Band info.

- The freq. change rate (when spinning the encoder) can be set manually or automatically.

I've been in contact with Pete F5VNB regarding the Nap3 software as it will require a slight modification. Currently the software wants to connect to a radio, but in my case there is no radio, just a microcontroller that will send and receive data.
Pete is busy but will look into what it takes for same changes.

Where I'm at:
The base "protoype" has been built/programmed and tested and works.Don't have the band switch in yet, nor the split functionality. It controls the radio and sends data to the Nap3 program.
Been on the air with it and have had good reports. As far as birdies or spurs on the VFO signal, I've been monitoring this with my scope but have not seen any.

73
Bart
KB8BAB

46914. Re: [TS-520_820_530_830] RE: TS830S Unstable on 10M - no output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-10 16:19:00 UTC
From: Craig Roberts
Topic: 46900 Message: 46914

That the point about "idleness is corrosion's workshop", my current TS-830S was DOA at my doorstep on all bands except 40 meters. The previous owner explained that for the past two decades or so he had used the radio just once a year -- on Field Day weekend -- and only on 40 meters. A careful and thorough cleaning of the blackened band switch revitalized the rig on all bands.

Now, for 10 meter drive and output (presuming band switch cleaning and driver tube replacement don't work and you are getting SOME ALC reading, no matter how low, with the carrier control wide open). here's a trick offered by a prominent KW hybrid tech (I will not name him since this method might be controversial): Tweak not only the Drive coil for maximum ALC indication in "Tune", but the RF (mixer) coil as well. The interaction can work to bring up the drive level significantly. Theoretically, the 10 meter receive level will be degraded a bit this way, but the S/N level supposedly remains steady -- at least to the ear.

I'll be interested to know what our troubleshooting gurus think of this method. If nothing else, it's harmless and instantly reversible.

73,

Craig
W3CRR

46915. Re: [TS-520_820_530_830] am filter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-10 18:35:54 UTC
From: Mike W5RKL
Topic: 46912 Message: 46915

Any filter you install in the 830 will also be used in transmit. I realize you only want to "receive AM" but any filter that is installed in the 830 will also be in the "transmit signal path" so it will be used in transmit.

I am not familiar with the filter you are referring to, "CFW 456.5HT". Personally, I would not recommend installing a filter in your 830 just for receiving especially if you also transmit on the hams bands with your 830.

73
Mike W5RKL

On 1/10/2014 5:50 AM, ct61dim@... wrote:
>
> Hello ,
>
> i want to put in my ts 830s one filter for AM tipe CFW 456,5 HT to
> have only receiver on it .Where can i give one for sent? I,ll
> apreciate if someone help me whith info .Best regards
>
>

46916. Re: [TS-520_820_530_830] am filter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-10 19:19:30 UTC
From: Craig Roberts
Topic: 46912 Message: 46916

That's the optional AM filter for the TS-830S(M) version that we weren't lucky enough to get in the good ole USA. As shown in Gordon's TS-830S service manual scan, the (M) version had an extra, dedicated circuit board for the mode. The Yaesu hybrids at the time, like the FT-102 and FT-902DM, had AM transmit and receive capability, but our domestic KWs did not. (At least as far as I know).

If I could find an (M) version, I'd snatch it up, even though I suspect it's not true AM.

Incidentally, does anyone have a Yaesu hybrid as a companion to your Kenwood. If so, how do they compare?
>

46917. RE: [TS-520_820_530_830] am filter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-10 21:36:09 UTC
From: fpath fpath
Topic: 46912 Message: 46917

Craig,

I have a couple of friends that bleed Yaesu. When I have put any of my 530 or 830s on the bench, side by side to the yaesu, they all agree Kenwood has far better transmit audio and far better receiver, both in sensitivity and selectivity. They do think the Kenwood 20 series has even better receivers.

But there again everytime I go the blood band they have trouble with the large K that comes out of my veins HIHI

73s

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
CC: w5rkl@...
From: crgrbrts@...
Date: Fri, 10 Jan 2014 14:19:30 -0500
Subject: Re: [TS-520_820_530_830] am filter

That's the optional AM filter for the TS-830S(M) version that we weren't lucky enough to get in the good ole USA. As shown in Gordon's TS-830S service manual scan, the (M) version had an extra, dedicated circuit board for the mode. The Yaesu hybrids at the time, like the FT-102 and FT-902DM, had AM transmit and receive capability, but our domestic KWs did not. (At least as far as I know).

If I could find an (M) version, I'd snatch it up, even though I suspect it's not true AM.

Incidentally, does anyone have a Yaesu hybrid as a companion to your Kenwood. If so, how do they compare?

46918. RE: [TS-520_820_530_830] SO239 panel mount

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-10 21:40:31 UTC
From: fpath fpath
Topic: 46847 Message: 46918

Thank Terry,

I hope to get the new panel mounts within 3 weeks. OK on the cold, 35C today and moving to 47C by Thursday, over here. Gives me the opportunity to do start on another 830 restoration on RDO, heat does have its advantage.

Stay warm

73s

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: wagstw46@...
Date: Thu, 9 Jan 2014 17:29:01 -0800
Subject: RE: [TS-520_820_530_830] SO239 panel mount

Dave

It is not being anal to not want to needlessly chop and hack on your radios. I agree would never drill out the stock punched D hole to allow a 4 hole chassis mount connector. Just as I would never mount one that was not flush against the back panel so it rules out the common 4 hole connectors for me.

I just installed much nicer and heavier bulk head connectors on my two 830s. Only a KW hybrid aficionado would notice the difference.

Been around -25C for a week here and 3 foot of snow on the level. Suppose to be 4.5C on Saturday so now folks will have problems with flooded basements as ground is frozen and no place for the melting snow to go. Great fun!

Terry K9TW

46919. VFO trouble

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-11 02:40:18 UTC
From: <kmx888@...>
Topic: 46919 Message: 46919

The VFO on my 530S does not move from frequency to frequency. For example on 80 meters is shows 3.00 and will not move as the knob is rotated. 40 meters is 6.5.. etc.

I was having some output trouble, checked the cathode and screen resistors, buttoned it back up and now have this issue. It MUST be something I did. Looked for loose connectors etc.
Best,
Kevin
KD0ILM/XV2KM

46920. Re: [TS-520_820_530_830] am filter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-11 04:35:10 UTC
From: <pmarkavage@...>
Topic: 46912 Message: 46920

Adding just an AM filter will not allow you really receive true AM signals. You also have to disable the product detector and add in some type of AM detector to demodulate the AM signals. In the overall scheme of things, it isn't worth the time, effort, or results. The TS-830S in stock form was designed as a SSB/CW transceiver. Back in the 90's when I talked with one of the Kenwood engineers about adding the additional AM board and 6KHz filter (to make it a TS-830M) to my TS-830S, he indicated it wasn't worth the time or trouble.

Pete, wa2cwa

46921. RE: Drive level TS520s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-11 06:17:18 UTC
From: <peterlake2003@...>
Topic: 46911 Message: 46921

Problem now solved, alignment error, set now re-aligned and working

46922. Re: [TS-520_820_530_830] RE: Unstable 9V on the AF-AVR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-11 09:50:57 UTC
From: linutas
Topic: 46883 Message: 46922

Hello again,

I have cleaned the VR4 pot properly, i found a local version of deoxit. The voltage on VR4 is adjusting as it should be, but ifi set 9.00 V , in a minute it will slowly drift to 9.06 or even more, sometimes even more .

On the zener diode i measure a very stable 6.00-6.01 V, no instability here.

I haven't yet checked the transistor, but one thing i noticed that it is so hot on the heatsink that its burns to the touch.

Linas

2014/1/10 <wagstw46@...>

>
>
> VR-4 is an open PC board vertical mount carbon trace trimmer pot. It is
> not metal can or plastic case enclosed.
>
>
> No need to spray it at all. Just use couple of small drops of DeOxit D100L
> using the applicator that comes with it or spray small amount of D5 in a
> pill bottle and dip artist brush in and transfer drop or two to the trim
> pot.
>
>
> After exercising and blowing off with canned air I like to apply couple of
> drops of DeOxit Fader Type F Lube as it is made for lubricating carbon
> trace controls. It comes with a needle applicator which lasts much longer
> than spray.
>
>
> If DeOxit is unavailable there lots of other brands of contact cleaners
> that are favorites of repair and restoration folks from various trades as
> Will suggests.
>
>
> I have never looked in to availability of Cermet or Metal film trimmers to
> replace these carbon controls.
>
>
> Terry K9TW
>
>
>

>
>
>
>

46923. RE: [TS-520_820_530_830] am filter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-11 11:49:02 UTC
From: <wagstw46@...>
Topic: 46912 Message: 46923

In my opinion the only one that even comes close is the FT-101ZD. Not scientific or AB testing just based on having operated one for awhile.

I use to work on FT-101s and I dont touch them anymore. Far more of them were made and sold and in the hands of CBers and have suffered a lot of operational abuse and hacking. The cosmetic condition is usually far worse. Seen some real beaters.

Some of the design is very similar and some quite different. Service literature is pretty good.

Of course parts rig FT-101s abound at lower cost even ebay auction fever prices are lower. So you should be able to keep your Yaesu going for long time.

I guess it may have something to do with your first transceiver. Some guys bleed Swan others Heath etc. I built HW-101 and it was great fun and had SB-102, but always wanted to upgrade to a KW hybrid. Started with a 520 and lusted for a 830.

They are all fun from this generation, but I wont trade my KW Hybrids. Heck even among hybrid owners there are those who are loyal to a particular model. Typically much debate over 820 vs 830 and which is the better rig.

Ask Jimmy Lamanteer WB2KNR which is his favorite. At last count I think he had 10 or 12 original TS-520 rigs! He just has too much gold!

Terry K9TW

46924. Re: [TS-520_820_530_830] RE: Unstable 9V on the AF-AVR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-11 12:51:47 UTC
From: Mike W5RKL
Topic: 46883 Message: 46924

Linas,

AF AVR Unit Q7 will get warm but it should not get so hot it burns you fingers.

73
Mike W5RKL

On 1/11/2014 3:50 AM, linutas wrote:
> Hello again,
>
> I have cleaned the VR4 pot properly, i found a local version of
> deoxit. The voltage on VR4 is adjusting as it should be, but ifi set
> 9.00 V , in a minute it will slowly drift to 9.06 or even more,
> sometimes even more .
>
> On the zener diode i measure a very stable 6.00-6.01 V, no instability
> here.
>
> I haven't yet checked the transistor, but one thing i noticed that it
> is so hot on the heatsink that its burns to the touch.
>
> Linas
>
>
>
> 2014/1/10 <wagstw46@... <mailto:wagstw46@...>>
>
> VR-4 is an open PC board vertical mount carbon trace trimmer pot.
> It is not metal can or plastic case enclosed.
>
>
> No need to spray it at all. Just use couple of small drops of
> DeOxit D100L using the applicator that comes with it or spray
> small amount of D5 in a pill bottle and dip artist brush in and
> transfer drop or two to the trim pot.
>
>
> After exercising and blowing off with canned air I like to apply
> couple of drops of DeOxit Fader Type F Lube as it is made for
> lubricating carbon trace controls. It comes with a needle
> applicator which lasts much longer than spray.
>
>
> If DeOxit is unavailable there lots of other brands of contact
> cleaners that are favorites of repair and restoration folks from

> various trades as Will suggests.
>
>
> I have never looked in to availability of Cermet or Metal film
> trimmers to replace these carbon controls.
>
>
> Terry K9TW
>
>
>
>
>

46925. Re: [TS-520_820_530_830] RE: Unstable 9V on the AF-AVR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-11 13:05:20 UTC
From: <wagstw46@...>
Topic: 46883 Message: 46925

Linas

Couple of things. You have proved that your zener reference is good.

1. The heatsink will get warm to the touch, but should be able to leave your finger on it. Should never be too hot to touch or leave finger on it. Of course I have calloused old man fingers!

2. It is normal for the 9vdc to drift up a few millivolts from cold start, but should then lock in.

Look at the schematic of the AF-AVR board and you will see R38 68 ohm resistor in shunt with the series pass transistor. This is an old trick from the tube TV set linear regulator power supply days. You probably never seen a console tube TV set. Was a piece of furniture that sat on the floor!

Whenever you have essentially a constant load on a linear regulated power supply you can use a lower rated and lower cost pass transistor by shunting it with a bypass resistor to share the load. This is the case with your 820. The 9vdc load is pretty constant. It is a wasteful design but proven and works well.

In this case R38 will see approx 5vdc IR drop. 5/68 = approx 74ma current. If you pull AF-1 connector and measure from 9vdc output (pin 1 or 2) at the pulled plug to chassis ground with rig down powered should measure something like 86 ohms. 9/86 = 105ma total load on the regulator. So the shunt bypass resistor carries approx 74ma of this load and the pass transistor carries 25ma. So the pass transistor is turned on to look like approx 200 ohm resistor. As long as the load current never goes lower than approx 74ma the thing will regulate.

What this could mean is that it is possible that R38 has drifted high in value or is open and the series pass transistor is forced to carry most if not all of the 105ma load current.

One other possibility is there is a fault on the 9vdc bus (rail) causing additional load current but not as likely.

First thing to do is down power and pull AF-1 and measure the resistance from 9vdc output pins 1 or 2 at the pulled plug to chassis ground to confirm that you have approx 86 ohms. Assuming that is good then you will measure the resistance of R38. Leave AF-1 unplugged and measure from top of R38 to hole where R37 enters the board. You will be directly across R38. It should read very close to 68 ohms. If it is high or open then need to replace it. Replace it with a metal film. Wattage is I^R or .075 x .075 x 68 = 0.38 watts. Use nothing less than a 1 watt resistor. If R38 is good then I would replace the pass transistor.

If you have to remove the board to replace bad R38 you may want to just go ahead and replace the pass transistor.

Terry K9TW

---In TS-520_820_530_830@yahoogroups.com, <linutas@...> wrote:

Hello again,

I have cleaned the VR4 pot properly, i found a local version of deoxit. The voltage on VR4 is adjusting as it should be, but ifi set 9.00 V , in a minute it will slowly drift to 9.06 or even more, sometimes even more .

On the zener diode i measure a very stable 6.00-6.01 V, no instability here.

I haven't yet checked the transistor, but one thing i noticed that it is so hot on the heatsink that its burns to the touch.

Linas

2014/1/10 <wagstw46@... mailto:wagstw46@...>
VR-4 is an open PC board vertical mount carbon trace trimmer pot. It is not metal can or plastic case enclosed.

No need to spray it at all. Just use couple of small drops of DeOxit D100L using the applicator that comes with it or spray small amount of D5 in a pill bottle and dip artist brush in and transfer drop or two to the trim pot.

After exercising and blowing off with canned air I like to apply couple of drops of DeOxit Fader Type F Lube as it is made for lubricating carbon trace controls. It comes with a needle applicator which lasts much longer than spray.

If DeOxit is unavailable there lots of other brands of contact cleaners that are favorites of repair and restoration folks from various trades as Will suggests.

I have never looked in to availability of Cermet or Metal film trimmers to replace these carbon controls.

Terry K9TW

46926. Re: [TS-520_820_530_830] RE: Unstable 9V on the AF-AVR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-11 13:40:11 UTC
From: Mike W5RKL
Topic: 46883 Message: 46926

Linas and Terry,

I don't know what happened to your message Linas, appears it has gotten lost in the Yahoo server. I cut and pasted your message response "text" below:

"/If i did not mix up the legs , Emitter is around 13.50 , varying alot from 13,25 to 13.60 approx//
/
/Collector is 9.01, seems stable on the digital multimeter, but vfo isint as i told here.//
//Base voltage is 12.65 , varying too//
//
/
/The area around the Q7 had alot of this very thick, bubbly goo, maybe its from all the heat during years of time? //
/
/Im adding a picture
//https://www.dropbox.com/s/dnotilf3cw48wvv/2014-01-11%2013.30.27.jpg//
/
/It scraped off a bit .//"/

The "bubbly" coating seen on the picture does appear the heat sink has gotten warmer than it should. The 820 I use to have didn't have that "bubbly" discoloring/coating on the foil side of the AF AVR Unit board. I agree with Terry, check the resistor first and if necessary, replace it. If, however, the resistor is okay, measures within tolerance and you decide to replace Q7, let me know and I'll send you a "new" original 2SA496(Y) transistor.

73
Mike W5RKL

On 1/11/2014 7:05 AM, wagstw46@... wrote:
>
> Linas
>
>
> Couple of things. You have proved that your zener reference is good.
>
>
> 1. The heatsink will get warm to the touch, but should be able to
> leave your finger on it. Should never be too hot to touch or leave
> finger on it. Of course I have calloused old man fingers!
>
>

> 2. It is normal for the 9vdc to drift up a few millivolts from cold
> start, but should then lock in.
>
>
> Look at the schematic of the AF-AVR board and you will see R38 68 ohm
> resistor in shunt with the series pass transistor. This is an old
> trick from the tube TV set linear regulator power supply days. You
> probably never seen a console tube TV set. Was a piece of furniture
> that sat on the floor!
>
>
> Whenever you have essentially a constant load on a linear regulated
> power supply you can use a lower rated and lower cost pass transistor
> by shunting it with a bypass resistor to share the load. This is the
> case with your 820. The 9vdc load is pretty constant. It is a wasteful
> design but proven and works well.
>
>
> In this case R38 will see approx 5vdc IR drop. 5/68 = approx 74ma
> current. If you pull AF-1 connector and measure from 9vdc output (pin
> 1 or 2) at the pulled plug to chassis ground with rig down powered
> should measure something like 86 ohms. 9/86 = 105ma total load on the
> regulator. So the shunt bypass resistor carries approx 74ma of this
> load and the pass transistor carries 25ma. So the pass transistor is
> turned on to look like approx 200 ohm resistor. As long as the load
> current never goes lower than approx 74ma the thing will regulate.
>
>
> What this could mean is that it is possible that R38 has drifted high
> in value or is open and the series pass transistor is forced to carry
> most if not all of the 105ma load current.
>
>
> One other possibility is there is a fault on the 9vdc bus (rail)
> causing additional load current but not as likely.
>
>
> First thing to do is down power and pull AF-1 and measure the
> resistance from 9vdc output pins 1 or 2 at the pulled plug to chassis
> ground to confirm that you have approx 86 ohms. Assuming that is good
> then you will measure the resistance of R38. Leave AF-1 unplugged and
> measure from top of R38 to hole where R37 enters the board. You will
> be directly across R38. It should read very close to 68 ohms. If it is
> high or open then need to replace it. Replace it with a metal film.
> Wattage is I^R or .075 x .075 x 68 = 0.38 watts. Use nothing less
> than a 1 watt resistor. If R38 is good then I would replace the pass
> transistor.
>
>
> If you have to remove the board to replace bad R38 you may want to

> just go ahead and replace the pass transistor.
>
>
> Terry K9TW
>
>
>
> ---In TS-520_820_530_830@yahoogroups.com, <linutas@...> wrote:
>
> Hello again,
>
> I have cleaned the VR4 pot properly, i found a local version of
> deoxit. The voltage on VR4 is adjusting as it should be, but ifi set
> 9.00 V , in a minute it will slowly drift to 9.06 or even more,
> sometimes even more .
>
> On the zener diode i measure a very stable 6.00-6.01 V, no instability
> here.
>
> I haven't yet checked the transistor, but one thing i noticed that it
> is so hot on the heatsink that its burns to the touch.
>
> Linas
>
>
>
> 2014/1/10 <wagstw46@... <mailto:wagstw46@...>>
>
> VR-4 is an open PC board vertical mount carbon trace trimmer
> pot. It is not metal can or plastic case enclosed.
>
>
> No need to spray it at all. Just use couple of small drops of
> DeOxit D100L using the applicator that comes with it or spray
> small amount of D5 in a pill bottle and dip artist brush in
> and transfer drop or two to the trim pot.
>
>
> After exercising and blowing off with canned air I like to
> apply couple of drops of DeOxit Fader Type F Lube as it is
> made for lubricating carbon trace controls. It comes with a
> needle applicator which lasts much longer than spray.
>
>
> If DeOxit is unavailable there lots of other brands of contact
> cleaners that are favorites of repair and restoration folks
> from various trades as Will suggests.
>
>
> I have never looked in to availability of Cermet or Metal film

> trimmers to replace these carbon controls.
>
>
> Terry K9TW
>
>
>
>
>

46927. Re: [TS-520_820_530_830] RE: Unstable 9V on the AF-AVR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-11 13:44:38 UTC
From: sm7fyw
Topic: 46883 Message: 46927

Hi all
I had a similar thing on my 520, turned out that it was bad solder.....
Check all solders on that board eg resolder all....
Worked on my avr board :)
Good luck
Lars
KB3WBT

Sent from Samsung tablet

46928. Re: [TS-520_820_530_830] RE: Unstable 9V on the AF-AVR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-11 12:57:48 UTC
From: linutas
Topic: 46883 Message: 46928

If i did not mix up the legs , Emitter is around 13.50 , varying alot
from 13,25 to 13.60 approx
Collector is 9.01, seems stable on the digital multimeter, but vfo isint
as i told here.
Base voltage is 12.65 , varying too

The area around the Q7 had alot of this very thick, bubbly goo, maybe its
from all the heat during years of time?
Im adding a picture
https://www.dropbox.com/s/dnotilf3cw48wvv/2014-01-11%2013.30.27.jpg
It scraped off a bit .

2014/1/11 Mike W5RKL <w5rkl@...>

>
>
> Linas,
>
> AF AVR Unit Q7 will get warm but it should not get so hot it burns you
> fingers.
>
> 73
> Mike W5RKL
>
> On 1/11/2014 3:50 AM, linutas wrote:
>
>
> Hello again,
>
> I have cleaned the VR4 pot properly, i found a local version of deoxit.
> The voltage on VR4 is adjusting as it should be, but ifi set 9.00 V , in a
> minute it will slowly drift to 9.06 or even more, sometimes even more .
>
> On the zener diode i measure a very stable 6.00-6.01 V, no instability
> here.
>
> I haven't yet checked the transistor, but one thing i noticed that it is
> so hot on the heatsink that its burns to the touch.
>
> Linas
>
>
>
> 2014/1/10 <wagstw46@...>
>
>>

>>
>> VR-4 is an open PC board vertical mount carbon trace trimmer pot. It is
>> not metal can or plastic case enclosed.
>>
>>
>> No need to spray it at all. Just use couple of small drops of DeOxit
>> D100L using the applicator that comes with it or spray small amount of D5
>> in a pill bottle and dip artist brush in and transfer drop or two to the
>> trim pot.
>>
>>
>> After exercising and blowing off with canned air I like to apply couple
>> of drops of DeOxit Fader Type F Lube as it is made for lubricating carbon
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>> than spray.
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>>
>> If DeOxit is unavailable there lots of other brands of contact cleaners
>> that are favorites of repair and restoration folks from various trades as
>> Will suggests.
>>
>>
>> I have never looked in to availability of Cermet or Metal film trimmers
>> to replace these carbon controls.
>>
>>
>> Terry K9TW
>>
>>
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46929. Re: [TS-520_820_530_830] RE: Unstable 9V on the AF-AVR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-11 13:43:41 UTC
From: linutas
Topic: 46883 Message: 46929

Plugged out of the board AF1 conenctor pin 1 or 2 to the chasis measures
66.7 ohm , not 86 .

Measuring the R38 shows 67.8 ohms.

Linas

2014/1/11 <wagstw46@...>

>
>
> Linas
>
>
> Couple of things. You have proved that your zener reference is good.
>
>
> 1. The heatsink will get warm to the touch, but should be able to leave
> your finger on it. Should never be too hot to touch or leave finger on it.
> Of course I have calloused old man fingers!
>
>
> 2. It is normal for the 9vdc to drift up a few millivolts from cold start,
> but should then lock in.
>
>
> Look at the schematic of the AF-AVR board and you will see R38 68 ohm
> resistor in shunt with the series pass transistor. This is an old trick
> from the tube TV set linear regulator power supply days. You probably never
> seen a console tube TV set. Was a piece of furniture that sat on the floor!
>
>
> Whenever you have essentially a constant load on a linear regulated power
> supply you can use a lower rated and lower cost pass transistor by shunting
> it with a bypass resistor to share the load. This is the case with your
> 820. The 9vdc load is pretty constant. It is a wasteful design but proven
> and works well.
>
>
> In this case R38 will see approx 5vdc IR drop. 5/68 = approx 74ma current.
> If you pull AF-1 connector and measure from 9vdc output (pin 1 or 2) at the
> pulled plug to chassis ground with rig down powered should measure
> something like 86 ohms. 9/86 = 105ma total load on the regulator. So the
> shunt bypass resistor carries approx 74ma of this load and the pass
> transistor carries 25ma. So the pass transistor is turned on to look like
> approx 200 ohm resistor. As long as the load current never goes lower than

> approx 74ma the thing will regulate.
>
>
> What this could mean is that it is possible that R38 has drifted high in
> value or is open and the series pass transistor is forced to carry most if
> not all of the 105ma load current.
>
>
> One other possibility is there is a fault on the 9vdc bus (rail) causing
> additional load current but not as likely.
>
>
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> from 9vdc output pins 1 or 2 at the pulled plug to chassis ground to
> confirm that you have approx 86 ohms. Assuming that is good then you will
> measure the resistance of R38. Leave AF-1 unplugged and measure from top of
> R38 to hole where R37 enters the board. You will be directly across R38. It
> should read very close to 68 ohms. If it is high or open then need to
> replace it. Replace it with a metal film. Wattage is I^R or .075 x .075 x
> 68 = 0.38 watts. Use nothing less than a 1 watt resistor. If R38 is good
> then I would replace the pass transistor.
>
>
> If you have to remove the board to replace bad R38 you may want to just go
> ahead and replace the pass transistor.
>
>
> Terry K9TW
>
>
> ---In TS-520_820_530_830@...m, <linutas@...> wrote:
>
> Hello again,
>
> I have cleaned the VR4 pot properly, i found a local version of deoxit.
> The voltage on VR4 is adjusting as it should be, but ifi set 9.00 V , in a
> minute it will slowly drift to 9.06 or even more, sometimes even more .
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> On the zener diode i measure a very stable 6.00-6.01 V, no instability
> here.
>
> I haven't yet checked the transistor, but one thing i noticed that it is
> so hot on the heatsink that its burns to the touch.
>
> Linas
>
>
>
> 2014/1/10 <wagstw46@...>
>

>
>
> VR-4 is an open PC board vertical mount carbon trace trimmer pot. It is
> not metal can or plastic case enclosed.
>
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> No need to spray it at all. Just use couple of small drops of DeOxit D100L
> using the applicator that comes with it or spray small amount of D5 in a
> pill bottle and dip artist brush in and transfer drop or two to the trim
> pot.
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> trace controls. It comes with a needle applicator which lasts much longer
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> If DeOxit is unavailable there lots of other brands of contact cleaners
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> Will suggests.
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> I have never looked in to availability of Cermet or Metal film trimmers to
> replace these carbon controls.
>
>
> Terry K9TW
>
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46930. Re: [TS-520_820_530_830] RE: Unstable 9V on the AF-AVR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-11 14:01:40 UTC
From: <wagstw46@...>
Topic: 46883 Message: 46930

Linas

Before someone gives me an F on my report card I forgot that the audio preamp stages on the AVR board are also powered by the 9vdc regulator so after measuring the off board load resistance need to reland AF-1 plug and measure resistance again and should see something on the order of approx 48 to 50 ohms.

This means total load current will be approx 9/48 = 188ma. 188-75 = 113 ma load carried by the series pass transistor and 75ma by shunt bypass resistor.

Sorry about that. Been awhile since I had a TS820 on the bench.

In any event should be able to leave finger on the heat sink.

Terry K9TW

46931. Re: [TS-520_820_530_830] RE: Unstable 9V on the AF-AVR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-11 14:10:00 UTC
From: <wagstw46@...>
Topic: 46883 Message: 46931

Well my notes show approx 86 ohms. I have my personal TS-820 here but the covers are on. Perhaps another member has covers off and can quickly check this for you? If not, I can remove covers and do so if needed.

What is resistance from 9vdc pin 1 or 2 to chassis ground with AF-1 plug landed? This should be total of off board and on board load that the regulator will see. My notes show approx 48 to 50 ohms.

Terry K9TW

46932. Re: [TS-520_820_530_830] RE: Unstable 9V on the AF-AVR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-11 14:16:13 UTC
From: <wagstw46@...>
Topic: 46883 Message: 46932

I think Mike is correct time to replace Q7. Also, need to take a good hard look at R38 68 ohm bypass resistor while the board is out.

If it were me I would not replace unless I bench tested it first. Very easy to do if you have some resistors to use as dummy loads. If not will just have to re-install to see if it is fixed.

Terry

46933. RE: [TS-520_820_530_830] SO239 panel mount

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-11 14:35:30 UTC
From: <paw_paw44036@...>
Topic: 46847 Message: 46933

Terry,
I guess I should have explained it better. I took some standard SO 239,s to a friend of mine at the machine shop I use to work at and he matched the flat from the panel mount to the SO 239. Only drilled 2 holes for the pop rivets. It leaves the D stamping intact and only adds 2 - 1/8 inch holes. He did a dozen of them for me. I could grind them but its not as nice job as a milling machine will do. This way you can go back if you desire.

Bill WD8OSJ

46934. Re: [TS-520_820_530_830] RE: Unstable 9V on the AF-AVR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-11 14:25:26 UTC
From: linutas
Topic: 46883 Message: 46934

I can clarify that with AF2 AF3 plugged in , AF1 out, pin 1 or 2 to ground measures 65.8 ohm

AF1 and all others plugged IN pin 1-2 is 44.2 ohm

Rig is off every time

2014/1/11 <wagstw46@...>

>
>
> I think Mike is correct time to replace Q7. Also, need to take a good hard
> look at R38 68 ohm bypass resistor while the board is out.
>
>
> If it were me I would not replace unless I bench tested it first. Very
> easy to do if you have some resistors to use as dummy loads. If not will
> just have to re-install to see if it is fixed.
>
>
> Terry
>
>
>

46935. Re: [TS-520_820_530_830] RE: Unstable 9V on the AF-AVR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-11 14:08:18 UTC
From: linutas
Topic: 46883 Message: 46935

With everything connected i measure 44.2 ohm on Pin 1-2

And yes, if i hold my finger longer than a second it burns really really bad

2014/1/11 <wagstw46@...>

>
>
> Linas
>
>
> Before someone gives me an F on my report card I forgot that the audio
> preamp stages on the AVR board are also powered by the 9vdc regulator so
> after measuring the off board load resistance need to reland AF-1 plug and
> measure resistance again and should see something on the order of approx 48
> to 50 ohms.
>
>
> This means total load current will be approx 9/48 = 188ma. 188-75 = 113 ma
> load carried by the series pass transistor and 75ma by shunt bypass
> resistor.
>
>
> Sorry about that. Been awhile since I had a TS820 on the bench.
>
>
> In any event should be able to leave finger on the heat sink.
>
>
> Terry K9TW
>
>
>

46936. Re: [TS-520_820_530_830] RE: Unstable 9V on the AF-AVR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-11 15:55:06 UTC
From: <wagstw46@...>
Topic: 46883 Message: 46936

OK 44 ohms load on the 9vdc rail is OK. 9/44 = 200 ma. Assuming R38 is good then it looks like pass transistor is the cause of very hot heat sink.

50 ohm dummy load is typical max value I would use to bench test the AVR before re-install. I have an old ohmite 100 ohm wire wound rheostat that I place across the 9vdc and vary it from around 100 ohms to 50 ohms and monitor the 9vdc to make sure it will regulate and doesnt get hot.

Could just use your 50 ohm station dummy load which I assume you have and if you do not have one certainly need one to learn how to load and test the transmitter.

73s
Terry K9TW

46937. Re: [TS-520_820_530_830] am filter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-11 16:08:54 UTC
From: Jan Servaites
Topic: 46912 Message: 46937

Here again, I use my Softrock SDR to listen to AM/CW/SSB/FM as well as a panadapter to all my Kenwood radios. That might be the logical answer, as there is no major mods needed to our hybrids.
Jan N8CBX

pmarkavage@... wrote:

>
>
> Adding just an AM filter will not allow you really receive true AM
> signals. You also have to disable the product detector and add in some
> type of AM detector to demodulate the AM signals. In the overall
> scheme of things, it isn't worth the time, effort, or results. The
> TS-830S in stock form was designed as a SSB/CW transceiver. Back in
> the 90's when I talked with one of the Kenwood engineers about adding
> the additional AM board and 6KHz filter (to make it a TS-830M) to my
> TS-830S, he indicated it wasn't worth the time or trouble.
>
>
>
> Pete, wa2cwa
>
>
>
>

46938. RE: [TS-520_820_530_830] SO239 panel mount

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-11 16:11:09 UTC
From: <wagstw46@...>
Topic: 46847 Message: 46938

OK yes much neater install as the standard 4 hole panel mount SO-239 that I am familiar with wont lay flat in the hole. I had this image of a cocked connector!

For those of us with no milling machines or metal lathes a standard bulkhead connector is the answer.

Now if you have a friend with a machine shop you could be a hero to all of us if you had him fab a bunch of collars for the white nylon chain drive sprockets on the Drive Control shaft. A metal collar with two holes for the allen head set screws would be a slick fix. I am seeing more and more of these with really bad cracks and pretty easy to slip on the shaft and get the mesh/unmesh out of sync. Very important for them to be exactly in sync. Have to be tight tolerance for a collar to work (slight shrink fit). If you had to warm up to increase the ID and then slip on would be great. Just not so hot as to melt the nylon. I have even thought about installing small screw drive airplane hose clamp around them but the head of the set screw sticks up. I know of no glue that works with this gear material. I assume it is nylon but not sure.

Terry K9TW

46939. TS820 40M TX don't work

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-11 22:36:02 UTC
From: <f5bcz@...>
Topic: 46939 Message: 46939

Hello,
I have a problem with my TS820 on 40M, the transmit will turn off after a few seconds, I must restart the TS820 for emit again for a few seconds of course. When the problem occurs receipt work but the "drive" button no longer has any effect and others bands don't work also !
I precise that problem is only with 40M !
Have you ever encountered this problem or do you have any idea?

Thanks !
John

46940. Why oh WHY can't I get a break? TS520SE, fixed the DG5. 28,5 and 29.0 bands give 27. MHz.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-12 06:49:11 UTC
From: Wes Will
Topic: 46940 Message: 46940

The poor thing has been CHICKEN-BANDED. Golden-screwed-up-drivered.

I tossed a long wire up on the roof tonight, for some sort of antenna, and worked on the DG-5 that came with this ill-fated 520SE.

It wasn't enough to get a loose screw to short the 900VDC section and eat the rectifier board. Mis-aligned, noisy receive couldn't be the worst of it. No, oh no. Not for me.

I got the DG-5 to work, powering it off a bench supply instead of the back of the radio. THAT is still a recipe for smoke and another set of diodes in the 14 VDC area. Not worth it, just power it off a bench supply. Stable as a rock, great. Finally getting to see the digital display, and it's working quite well. Half an hour's warm-up and it's stable like a table.

So I decide to 'exercise' all the bands. 160 was quiet, some Morse of course of course of course. No Mr. Ed though. Ditto 80 meters. 40 had some chit-chat, Florida and Ohio, heard from Utah (if he was at the home QTH anyway...) 20, kind of static-filled, and some more Morse down low, Maunder Minimums really stink and all that.

THEN I went to ten meters. the 28.0 selection on the band switch, 28.000 it it, and all seems well. Even heard some of the locals using it for a rag-chew. Toggled up to 28.5 notch, and ..... HUH?????

27.000.00

29.0 gives me

27.500.00

on the DG-5.

This thing has been up-ge-screwed to the children's band. And I have no idea which of the ham-handed, thumb-fisted, <expletive-deleted> - up methods were used to GET it there.

I sent a text/SMS message to the thief that sold this "works perfectly" radio to me to begin with. His "No Guarantee" on the bill of sale sure stopped me from getting anything back out of him. Plus he blames it on the previous owner before him, anyway. "He said ..." it was fine, and neither of them checked - if you believe either of them which I do NOT.

So, once again, I have been flim-flammed. Screwed, blued, and tattooed.

Is there a reference document anywhere that can be pointed to which will assist me in identifying and UN-<expletive-deleted>-ing-up this poor rig? I am in the unenviable position of having spent this much on it, so I might as well add in the rest and at least attempt to get it back to working order. I could just abandon ten meters altogether, and use it for the other bands, which are now working fairly well. (I think. It looks good so far anyway.) And I will do so, if I cannot get this thing repaired and in full working condition.

But that REALLY galls me. Being schnookered like this, that hurts, yes. But not being able to use two of the seven band selections chaps my butt. I'm going to take a run at it, whether I get it back to ten meter working or not. I'm sure going to try, and it would be of much help if there were documentation available to aid me in unscrewing the inscrutable here.

Which is the most likely modification that was used? I'm going to start with that, searching for the modifications available for doing this to a poor unsuspecting rig, until I find one that matches the conditions I find under the hood. I'll at least be needing to get REAL 10-meter crystals to replace the stupid-band ones, correct? Best source for those, please?

Advice, VERY MUCH welcome here. Thanks guys, in advance.

Sheesh, will SOMEBODY ELSE please take a turn in this barrel? I'm gettin' right sick of being in it.

--
Wes "You can TOO lose them all; I'm PROOF!" Will
N9KDY

46941. Re: [TS-520_820_530_830] Why oh WHY can't I get a break? TS520SE, fixed the DG5. 28,5 and 29.0 bands give 27. MHz.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-12 10:06:09 UTC
From: Gordon JC Pearce
Topic: 46940 Message: 46941

On Sun, Jan 12, 2014 at 12:49:11AM -0600, Wes Will wrote:
>
> But that REALLY galls me. Being schnookered like this, that hurts, yes.
> But not being able to use two of the seven band selections chaps my
> butt. I'm going to take a run at it, whether I get it back to ten meter
> working or not. I'm sure going to try, and it would be of much help if
> there were documentation available to aid me in unscrewing the
> inscrutable here.

While I agree it wasn't quite as described, it's not such a big deal compared to all the other things that were wrong with it - and I don't see that the other faults were necessarily down to the 27MHz conversion.

There seems to be an attitude among certain elements of the community that if an HF set has been modified for CB, then even if it's adjusted back it will never be "pure" somehow, and that it will have been permanently damaged. I'm not quite sure how this works, really, since you're just dropping the range of one band of the set 1MHz - as far as I can see, you need to swap a crystal and retune a couple of coils. No biggie, just swap 'em back and realign.

If you dig back through the mailing list (I know, the web interface is hideous) then others have trod this path before. It starts with checking what crystals are actually fitted, and seeing what replacements you need to get.

As an aside, the VFO on my TS520 goes far enough "below 0" to get the top three or four channels of the UK CB allocation - but obviously doesn't do FM ;-)

--
Gordonjcp MM0YEQ

46942. Re: [TS-520_820_530_830] Why oh WHY can't I get a break? TS520SE, fixed the DG5. 28,5 and 29.0 bands give 27. MHz.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-12 11:44:37 UTC
From: Mike W5RKL
Topic: 46940 Message: 46942

Wes,

It appears a previous owner has changed the 28.5 and 29.0 "HET OSC" crystals on the RF Unit's HET CRYSTAL board, X44-1160-00, to cover the 11 meter band. It's not difficult to change the 520 back to 10 meters, you just have to find the 2 crystals that were changed and replace them with the correct 28.5 and 29.0 Mhz HET OSC crystals.

Remove both top and bottom covers, turn the 520 upside down, front panel facing you, and the first small PC board, on 'your' left closest to the front panel is the HET OSC board. You will see some small square shaped component mounted on the front side of the board, those are the HET OSC crystals. Each band has one that is selected by the band switch.

The correct 28.5 and 29.0 Mhz band switch selected HET OSC crystals are

28.5 is 37.395Mhz
29.0 is 37.995Mhz

You can obtain replacement crystals, new, from International Crystals in Oklahoma City, OK or try Bob Mansker, he may have a complete HET OSC crystal board with all the correct crystals.

73
Mike W5RKL

On 1/12/2014 12:49 AM, Wes Will wrote:
>
> The poor thing has been CHICKEN-BANDED. Golden-screwed-up-drivered.
>
> I tossed a long wire up on the roof tonight, for some sort of antenna,
> and worked on the DG-5 that came with this ill-fated 520SE.
>
> It wasn't enough to get a loose screw to short the 900VDC section and
> eat the rectifier board. Mis-aligned, noisy receive couldn't be the
> worst of it. No, oh no. Not for me.
>
> I got the DG-5 to work, powering it off a bench supply instead of the
> back of the radio. THAT is still a recipe for smoke and another set of
> diodes in the 14 VDC area. Not worth it, just power it off a bench
> supply. Stable as a rock, great. Finally getting to see the digital
> display, and it's working quite well. Half an hour's warm-up and it's
> stable like a table.
>
> So I decide to 'exercise' all the bands. 160 was quiet, some Morse of

> course of course of course. No Mr. Ed though. Ditto 80 meters. 40
> had some chit-chat, Florida and Ohio, heard from Utah (if he was at the
> home QTH anyway...) 20, kind of static-filled, and some more Morse down
> low, Maunder Minimums really stink and all that.
>
> THEN I went to ten meters. the 28.0 selection on the band switch,
> 28.000 it it, and all seems well. Even heard some of the locals using
> it for a rag-chew. Toggled up to 28.5 notch, and ..... HUH?????
>
> 27.000.00
>
> 29.0 gives me
>
> 27.500.00
>
> on the DG-5.
>
> This thing has been up-ge-screwed to the children's band. And I have no
> idea which of the ham-handed, thumb-fisted, <expletive-deleted> - up
> methods were used to GET it there.
>
> I sent a text/SMS message to the thief that sold this "works perfectly"
> radio to me to begin with. His "No Guarantee" on the bill of sale sure
> stopped me from getting anything back out of him. Plus he blames it on
> the previous owner before him, anyway. "He said ..." it was fine, and
> neither of them checked - if you believe either of them which I do NOT.
>
> So, once again, I have been flim-flammed. Screwed, blued, and tattooed.
>
> Is there a reference document anywhere that can be pointed to which will
> assist me in identifying and UN-<expletive-deleted>-ing-up this poor
> rig? I am in the unenviable position of having spent this much on it,
> so I might as well add in the rest and at least attempt to get it back
> to working order. I could just abandon ten meters altogether, and use
> it for the other bands, which are now working fairly well. (I think. It
> looks good so far anyway.) And I will do so, if I cannot get this thing
> repaired and in full working condition.
>
> But that REALLY galls me. Being schnookered like this, that hurts, yes.
> But not being able to use two of the seven band selections chaps my
> butt. I'm going to take a run at it, whether I get it back to ten meter
> working or not. I'm sure going to try, and it would be of much help if
> there were documentation available to aid me in unscrewing the
> inscrutable here.
>
> Which is the most likely modification that was used? I'm going to start
> with that, searching for the modifications available for doing this to a
> poor unsuspecting rig, until I find one that matches the conditions I
> find under the hood. I'll at least be needing to get REAL 10-meter
> crystals to replace the stupid-band ones, correct? Best source for

> those, please?
>
> Advice, VERY MUCH welcome here. Thanks guys, in advance.
>
> Sheesh, will SOMEBODY ELSE please take a turn in this barrel? I'm
> gettin' right sick of being in it.
>
> --
> Wes "You can TOO lose them all; I'm PROOF!" Will
> N9KDY
>
>

46943. Re: Why oh WHY can't I get a break? TS520SE, fixed the DG5. 28,5 and 29.0 bands give 27. MHz.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-12 09:56:09 UTC
From: clifford wright
Topic: 46940 Message: 46943

I think I know the answer to your problem. If it is the same arrangement as the TS820S, and I'm pretty sure that it is, you need a couple of crystals to replace those CB types.Once they are replaced it should just be a question of slight retuning of the synthesiser VCO as per the manual and possibly a quick tuneup on the RF side, but with a bit of luck the lazy $@#@@!@ who did the mods will not have touched those slugs and just relied on 27 MHz being VERY close to 28/29.5!
Best of luck!
ZL1BDA.

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

46944. RE: Why oh WHY can't I get a break? TS520SE, fixed the DG5. 28,5 and 29.0 bands give 27. MHz.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-12 11:53:06 UTC
From: <wagstw46@...>
Topic: 46940 Message: 46944

Wes

Take a deep breath. Fortunately this is typically one of the easiest mods to reverse. Sometimes they install a toggle switch on rear panel and some wiring to the Het Osc board, but most times they simply change one or more of the 10 meter Het Osc crystals (usually X5 and X6).

For example very easy to look at X5 and see if it is factory 36.895mhz or if 35.695mhz. 35.695 - 8.830 = 27.865mhz. Just look at all the 10 meter Het Osc crystals to make sure they are as listed in your Service Manual. Any that are not need to be replaced back to design.

Factory crystals are available from International Crystal Company or you can get replacement board from Bob Mansker.

Hardest part is removing the Het Osc board to remove and replace the crystals. Sometimes they dont even bother to do any alignment changes, but I would do a complete coil pack alignment after getting the correct Het Osc crystals installed.

Also do a good visual of all the coils on all the hanging boards for cracked cores, coil formers twisted off their mounts, coil winding turns stretched and pulled off one end of the former. These guys are often shade tree mechanics.

What worries me more about any CB hacked KW hybrid (especially TS520 rigs) is what else they do in addition to just changing the crystals. There are other concerns and they have to do with QRO ing the rig and operator abuse. Some other visual things to look for (besides lag bolts to install mic clip!):

1. Plate choke in PA cage darkened brown or black. Can be over entire span of the windings or concentrated in the center.

2. Screen grid voltage to the Driver Tube and Finals has been increased.
A. 210 moved to 300
B. 470 SG resistor on Rect board super sized, removed, jumpered by wire, jumpered by 47 ohm resistor, or different value resistor installed.
C. Screen grid divider resistors for the Driver tube values changed or resistors overheated. R76 and R57.
D. Driver tube plate chokes discolored (not too common) L9 and L7.

I would measure the screen grid voltage at the Driver tube and 6146 final tube socket pins to make sure at spec in RX and TX modes.

Lastly I would make sure VFO tracks top to bottom to make sure they havent messed with alignment.

Terry K9TW

46945. Re: [TS-520_820_530_830] Re: Why oh WHY can't I get a break? TS520SE, fixed the DG5. 28,5 and 29.0 bands give 27. MHz.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-12 11:54:14 UTC
From: Mike W5RKL
Topic: 46940 Message: 46945

Clifford,

The TS-820 uses a "PLL" circuit to control it's frequency. The TS-520 (all models) does not use a PLL circuit but rather simple older HET OSC and VFO mixing at 2 different stages to control the transceiver's receive and transmit frequency.

While the TS-820 PLL circuit uses a "similar" mixing scheme, the PLL circuit in the TS-820 is quite a bit different than the older method of frequency controlling used in the TS-520 models.

73
Mike W5RKL

On 1/12/2014 3:56 AM, clifford wright wrote:
>
> I think I know the answer to your problem. If it is the same arrangement
> as the TS820S, and I'm pretty sure that it is, you need a couple of
> crystals to replace those CB types.Once they are replaced it should just
> be a question of slight retuning of the synthesiser VCO as per the
> manual and possibly a quick tuneup on the RF side, but with a bit of
> luck the lazy $@#@@!@ who did the mods will not have touched those slugs
> and just relied on 27 MHz being VERY close to 28/29.5!
> Best of luck!
> ZL1BDA.
>
> ---
> This email is free from viruses and malware because avast! Antivirus
> protection is active.
> http://www.avast.com
>
>

46946. Re: Why oh WHY can't I get a break? TS520SE, fixed the DG5. 28,5 and 29.0 bands give 27. MHz.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-12 11:59:04 UTC
From: <wagstw46@...>
Topic: 46940 Message: 46946

The TS520 and 520S and 520SE are not PLL rigs. There is no VCO.??????????

Schematics and circuit descriptions are available at N6WK and other websites.

Terry K9TW

46947. Re: [TS-520_820_530_830] Why oh WHY can't I get a break? TS520SE, fixed the DG5. 28,5 and 29.0 bands give 27. MHz.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-12 14:15:15 UTC
From: Bob Lazarow
Topic: 46940 Message: 46947

Gordon: The issue is that the illegal CB hack jobs don't stop with just the frequency conversion, but also usually include various attempts to increase the power output. Some of these power hacks can seriously shorten the rig's life, decrease transmit quality, and so on. It is difficult to find and fix all of the changes that may have been attempted, including botched attempts. .

I don't understand our FCC...I see ads on eBAY and other media for CB setups supporting 2KW and this has been going on for years, and while it may be impossible to go after all of the illegal users, vendors should be a lot easier.

BOB / WA2JAJ
-----Original Message-----
From: Gordon JC Pearce
Sent: Jan 12, 2014 5:06 AM
To: TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830] Why oh WHY can't I get a break? TS520SE, fixed the DG5. 28,5 and 29.0 bands give 27. MHz.

?

On Sun, Jan 12, 2014 at 12:49:11AM -0600, Wes Will wrote:
>
> But that REALLY galls me. Being schnookered like this, that hurts, yes.
> But not being able to use two of the seven band selections chaps my
> butt. I'm going to take a run at it, whether I get it back to ten meter
> working or not. I'm sure going to try, and it would be of much help if
> there were documentation available to aid me in unscrewing the
> inscrutable here.

While I agree it wasn't quite as described, it's not such a big deal compared to all the other things that were wrong with it - and I don't see that the other faults were necessarily down to the 27MHz conversion.

There seems to be an attitude among certain elements of the community that if an HF set has been modified for CB, then even if it's adjusted back it will never be "pure" somehow, and that it will have been permanently damaged. I'm not quite sure how this works, really, since you're just dropping the range of one band of the set 1MHz - as far as I can see, you need to swap a crystal and retune a couple of coils. No biggie, just swap 'em back and realign.

If you dig back through the mailing list (I know, the web interface is hideous) then others have trod this path before. It starts with checking what crystals are actually fitted, and seeing what replacements you need to get.

As an aside, the VFO on my TS520 goes far enough "below 0" to get the top three or four channels of the UK CB allocation - but obviously doesn't do FM ;-)

--
Gordonjcp MM0YEQ

46948. Re: [TS-520_820_530_830] Why oh WHY can't I get a break? TS520SE, fixed the DG5. 28,5 and 29.0 bands give 27. MHz.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-12 14:25:40 UTC
From: Gordon JC Pearce
Topic: 46940 Message: 46948

On Sun, Jan 12, 2014 at 09:15:15AM -0500, Bob Lazarow wrote: > > > Gordon: The issue is that the illegal CB hack jobs don't stop with just the frequency conversion, but also usually include various attempts to increase the power output. Some of these power hacks can seriously shorten the rig's life, decrease transmit quality, and so on. It is difficult to find and fix all of the changes that may have been attempted, including botched attempts. .

I don't understand our FCC...I see ads on eBAY and other media for CB setups supporting 2KW and this has been going on for years, and while it may be impossible to go after all of the illegal users, vendors should be a lot easier.

BOB / WA2JAJ
-----Original Message----- I can't really see how it would "shorten the rig's life". About the only thing you can damage are the PA valves and they're easy to replace. The rest of it is built like a Russian tractor. There's a reason why these old Kenwood hybrids are the perfect choice for a moderately clueful beginner. -- Gordonjcp MM0YEQ

46949. Re: [TS-520_820_530_830] Why oh WHY can't I get a break? TS520SE, fixed the DG5. 28,5 and 29.0 bands give 27. MHz.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-12 14:54:01 UTC
From: <wagstw46@...>
Topic: 46940 Message: 46949

NOT TRUE.

The PA Tubes are not the only components being stressed. It appears you have not worked on very many hybrids or have not thought this out very well or perhaps not much tube transmitter and fundamental background? The PA works in concert with its Screen and Plate supply and they must be sized to address the rated DC input power and operating mode duty cycle.

QRO mods can result in:

1. Exceeding the Finals and Driver tube plate and screen grid dissipation.
2. Overheating SG voltage divider resistors and grid stoppers.
3. Burn up the Main and small RF Plate chokes.
4. Burn up the Rect boards

The objective of the QRO mods is to be able to routinely load these rigs to 300ma or greater plate current.

When you open a PA cage and find the Plate Choke burned black it is your first clue to look for QRO mods.
These morons even change the ALC RC time constants to reduce the delay time so that the ALC rail voltage comes back up quicker toward RF-1 between words and syllables so they increase the average to peak modulation. They use ALC as a form of compression. They could give a mouses rectum about splatter.

Terry K9TW

46950. Re: [TS-520_820_530_830] Why oh WHY can't I get a break? TS520SE, fixed the DG5. 28,5 and 29.0 bands give 27. MHz.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-12 16:40:17 UTC
From: Bob Lazarow
Topic: 46940 Message: 46950

Gordon: All of these rigs are designed for a certain power and a certain duty cycle. When these are exceeded especially grossly you can loose the power transformer, the HV caps, etc in addition to the tubes. Excessive heat can cause damage to pc boards, etc. Over driving can cause splatter and other bad output...all in all, it's a mess to say the least, assuming that the mods were even made "correctly" and are reversible...

73,

Bob / WA2JAJ
-----Original Message-----?
From: Gordon JC Pearce
Sent: Jan 12, 2014 9:25 AM
To: TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830] Why oh WHY can't I get a break? TS520SE, fixed the DG5. 28,5 and 29.0 bands give 27. MHz.

?

On Sun, Jan 12, 2014 at 09:15:15AM -0500, Bob Lazarow wrote:
>
>
> Gordon: The issue is that the illegal CB hack jobs don't stop with just the frequency conversion, but also usually include various attempts to increase the power output. Some of these power hacks can seriously shorten the rig's life, decrease transmit quality, and so on. It is difficult to find and fix all of the changes that may have been attempted, including botched attempts. .

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BOB / WA2JAJ
-----Original Message-----

I can't really see how it would "shorten the rig's life". About the only thing you can damage are the PA valves and they're easy to replace. The rest of it is built like a Russian tractor.

There's a reason why these old Kenwood hybrids are the perfect choice for a moderately clueful beginner.

--
Gordonjcp MM0YEQ

46951. FOR SALE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-12 17:06:49 UTC
From: <wagstw46@...>
Topic: 34493 Message: 46951

I have a few items for sale:

1. IRCI Kenwood Newsletters. These are the ones that Rob Pohorence N8RT published back in the heyday of the Kenwood Users Net. These are in a 2 inch 3-ring binder. I do not have a complete set. Earliest issue is #11 and oldest is #130. These contain more than KW Hybrid info. They cover rigs like the TS-930, TS-940 and others. Asking $30.00 shipped.

2. MC-50 microphone. Cord and strain reliefs all good. Keys are yellowed but lettering is good. I can provide a picture. Asking $55.00 shipped.

3. Polomar Engineers RX Noise Bridge w/manual (red die-cast case). Good for use with Spectro-gram or other audio spectrum analyzer software for adjusting the carrier oscillators for SSB frequency response. Asking $45.00 shipped.

4. Millen 90651 GDO with coil set. A little rough cosmetically, but works well. I can provide a picture. Asking $50.00 shipped.

Please contact me off the reflector. Can use Yahoo or AOL (wagstw46@aol.com).

Thanks
Terry K9TW

46952. RE: [TS-520_820_530_830] SO239 panel mount

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-12 18:28:00 UTC
From: <paw_paw44036@...>
Topic: 46847 Message: 46952

Do whatever you want. The man ask for a suggest to fix a flaw by Kenwood. I gave him an answer as to what I did to mine and mine work just fine and they are not cocked as you think. I have a 530 and 2 830's and they were always coming loose even from just setting. Temperature change is enough to loosen them. Expansion and contraction of dissimilar metals can do strange things. I have had PL-259's come loose at the antenna during severe cold weather. 95% of the radios I have owned over the years have used the standard SO-239.
With all respect to everyone on this group.
Bill WD8OSJ.

46953. RE: [TS-520_820_530_830] SO239 panel mount

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-12 18:29:57 UTC
From: Steve Berman
Topic: 46847 Message: 46953

Methinks that this thread has been beaten to death. Let's give it a rest, OK?

Steve, N6HK

To: TS-520_820_530_830@yahoogroups.com
From: paw_paw44036@...
Date: Sun, 12 Jan 2014 10:28:00 -0800
Subject: RE: [TS-520_820_530_830] SO239 panel mount

Do whatever you want. The man ask for a suggest to fix a flaw by Kenwood. I gave him an answer as to what I did to mine and mine work just fine and they are not cocked as you think. I have a 530 and 2 830's and they were always coming loose even from just setting. Temperature change is enough to loosen them. Expansion and contraction of dissimilar metals can do strange things. I have had PL-259's come loose at the antenna during severe cold weather. 95% of the radios I have owned over the years have used the standard SO-239.
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Bill WD8OSJ.

46954. Re: [TS-520_820_530_830] Why oh WHY can't I get a break? TS520SE, fixed the DG5. 28,5 and 29.0 bands give 27. MHz.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-12 18:56:45 UTC
From: Gordon JC Pearce
Topic: 46940 Message: 46954

On Sun, Jan 12, 2014 at 11:40:17AM -0500, Bob Lazarow wrote: > >
Gordon: All of these rigs are designed for a certain power and a certain duty cycle. When these are exceeded especially grossly you can loose the power transformer, the HV caps, etc in addition to the tubes. Excessive heat can cause damage to pc boards, etc. Over driving can cause splatter and other bad output...all in all, it's a mess to say the least, assuming that the mods were even made "correctly" and are reversible...

73,

Bob / WA2JAJ
-----Original Message----- Well, any mods will inherently be reversible - it just depends how much effort you're willing to put in. I can't see how you could possibly get the thing hot enough to damage the PCBs, especially with that bloody great fan on the back. "Bad output" will go away when you drive the rig correctly, and it won't somehow damage the radio. Even doing fairly lengthy overs (think long low-speed MFSK overs) the TS520 doesn't even get warm. I can't imagine what you'd have to do to overheat it. Are you transmitting from a bakery? -- Gordonjcp MM0YEQ

46955. Re: [TS-520_820_530_830] FOR SALE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-12 22:41:28 UTC
From: Ken MacLeod
Topic: 34493 Message: 46955

I'll take the mike if It's still available.
Ken- KI5PM
----- Original Message -----
From: wagstw46@...
To: TS-520_820_530_830@yahoogroups.com
Sent: Sunday, January 12, 2014 11:06 AM
Subject: [TS-520_820_530_830] FOR SALE

I have a few items for sale:

1. IRCI Kenwood Newsletters. These are the ones that Rob Pohorence N8RT published back in the heyday of the Kenwood Users Net. These are in a 2 inch 3-ring binder. I do not have a complete set. Earliest issue is #11 and oldest is #130. These contain more than KW Hybrid info. They cover rigs like the TS-930, TS-940 and others. Asking $30.00 shipped.

2. MC-50 microphone. Cord and strain reliefs all good. Keys are yellowed but lettering is good. I can provide a picture. Asking $55.00 shipped.

3. Polomar Engineers RX Noise Bridge w/manual (red die-cast case). Good for use with Spectro-gram or other audio spectrum analyzer software for adjusting the carrier oscillators for SSB frequency response. Asking $45.00 shipped.

4. Millen 90651 GDO with coil set. A little rough cosmetically, but works well. I can provide a picture. Asking $50.00 shipped.

Please contact me off the reflector. Can use Yahoo or AOL (wagstw46@...).

Thanks
Terry K9TW

46956. Nifty neutralization trick

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-13 00:15:45 UTC
From: Craig Roberts
Topic: 34493 Message: 46956

Hooray! My TS-830S is back in business with better than ever reception and full output on all bands.

Among the last tasks I performed was neutralization of the radio's new 8298 (6146B) finals. Seeking simplicity, I attempted the "remote receiver" method but, even with no antenna attached, the receiver's front end was swamped. Accordingly, its S-meter proved useless as a null indicator. I was about to put together an attenuator to help with the problem, but then ran across a really useful tip online. This requires an antenna switch, but most of us have one, so, here goes:

Connect the radio to be neutralized and the remote receiver to separate output (antenna) jacks of the switch and your dummy load to the "source" or common jack. Switch so the dummy load and transceiver to be serviced are connected. Follow the neutralization procedure as published. Enough of your transmitter's signal will bleed over through the switch to provide a usefully attenuated signal to the receiver. Using my old Heathkit HD-1234 antenna switch and TS-530S receiver, I was able to neutralize my 830's new finals very easily and quickly.

73,

Craig
W3CRR

46957. Can TS-530SP run on DC instead of AC?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-12 22:25:14 UTC
From: <donhoover@...>
Topic: 46957 Message: 46957

I recently got a TS-530SP, but it came with a 2 prong AC cord. I was wondering if it can be converted to run from my regular DC power supply in the shack. I know some of the other Kenwoods of this generation you could just change the cable and it would work with 12V(13.8) DC.

46958. RE: [TS-520_820_530_830] Can TS-530SP run on DC instead of AC?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-13 00:30:28 UTC
From: Gene Henderson
Topic: 46957 Message: 46958

Do you have a Call Sign & Name

Gene WB9HLA

From: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com] On Behalf Of donhoover@...
Sent: Sunday, January 12, 2014 5:25 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: [TS-520_820_530_830] Can TS-530SP run on DC instead of AC?

I recently got a TS-530SP, but it came with a 2 prong AC cord. I was wondering if it can be converted to run from my regular DC power supply in the shack. I know some of the other Kenwoods of this generation you could just change the cable and it would work with 12V(13.8) DC.

[Non-text portions of this message have been removed]

46959. Re: [TS-520_820_530_830] Can TS-530SP run on DC instead of AC?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-13 01:35:23 UTC
From: Wes Will
Topic: 46957 Message: 46959

On 01/12/2014 04:25 PM, donhoover@... wrote:
>
>
> I recently got a TS-530SP, but it came with a 2 prong AC cord. I was
> wondering if it can be converted to run from my regular DC power supply
> in the shack. I know some of the other Kenwoods of this generation you
> could just change the cable and it would work with 12V(13.8) DC.

Two things.

1) Do you have the owner/operator manual? If not contact me off-list
and I will send you a PDF copy. In the manual it shows the power
requirements and consumption of the rig. 120/240 VAC 50/60 Hz. No DC.

2) Please add a signature block with at least your name and if you have
one your amateur call to the bottom of any posts to this list. We're
running this on old-fashioned netiquette, which requires identification.
(... Among other things like politeness, which is one of the things
some of the other members could use some work on, admittedly - as could
I and probably everyone else, at least now and again.)

--
Wes Will
N9KDY

46960. Re: [TS-520_820_530_830] Nifty neutralization trick

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-13 01:55:18 UTC
From: Joseph Stiles
Topic: 34493 Message: 46960

Craig,

  Nice job....makes ya warm an' fuzzy when it all comes together!

73 Joe
WB7UQU

On Sunday, January 12, 2014 4:16 PM, Craig Roberts <crgrbrts@...> wrote:

>Hooray! My TS-830S is back in business with better than ever reception
>and full output on all bands.
>
>Among the last tasks I performed was neutralization of the radio's new
>8298 (6146B) finals. Seeking simplicity, I attempted the "remote
>receiver" method but, even with no antenna attached, the receiver's
>front end was swamped. Accordingly, its S-meter proved useless as a null
>indicator. I was about to put together an attenuator to help with the
>problem, but then ran across a really useful tip online. This requires
>an antenna switch, but most of us have one, so, here goes:
>
>Connect the radio to be neutralized and the remote receiver to separate
>output (antenna) jacks of the switch and your dummy load to the "source"
>or common jack. Switch so the dummy load and transceiver to be serviced
>are connected. Follow the neutralization procedure as published. Enough
>of your transmitter's signal will bleed over through the switch to
>provide a usefully attenuated signal to the receiver. Using my old
>Heathkit HD-1234 antenna switch and TS-530S receiver, I was able to
>neutralize my 830's new finals very easily and quickly.
>
>73,
>
>Craig
>W3CRR
>
>
>
>

46961. Re: [TS-520_820_530_830] Can TS-530SP run on DC instead of AC?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-13 01:57:17 UTC
From: <donhoover@...>
Topic: 46957 Message: 46961

I found the manual earlier this evening, and read through and noticed no mention of DC in it as well.

I was just wondering if it was an ability that was not specifically mentioned, or maybe if there was an easy conversion method people had possibly already done.

Best regards,
Don
WS4E

46962. Re: [TS-520_820_530_830] RE: Why oh WHY can't I get a break? TS520SE, fixed the DG5. 28,5 and 29.0 bands give 27. MHz.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-13 02:33:03 UTC
From: Wes Will
Topic: 46940 Message: 46962

On 01/12/2014 05:53 AM, wagstw46@... wrote:
>
>
> Wes
>
>
> Take a deep breath. Fortunately this is typically one of the easiest
> mods to reverse. Sometimes they install a toggle switch on rear panel

OK. Thanks for the slap on the chops, I'll get a grip now.... Good to hear that the odds are somewhat less than I was afraid they might be.

Checked the crystals, they're a meg too low. I've gotten in contact with the idiots who shafted me with this thing and asked point-blank if they have the crystals still yet, banging about somewhere I fear, properly stored somewhere I hope. But I don't hope too much.

I will be going over the rig with an eye toward trying to find any other modifications. I already know the final cage is clear, nothing toasty in there, so perhaps there is not power modification, just the frequency.

Thanks again, all.

--
Wes Will
N9KDY

46963. Re: [TS-520_820_530_830] Can TS-530SP run on DC instead of AC?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-13 02:54:46 UTC
From: Wes Will
Topic: 46957 Message: 46963

On 01/12/2014 07:57 PM, donhoover@... wrote:
>
>
> I found the manual earlier this evening, and read through and noticed no
> mention of DC in it as well.

Not something Kenwood would tend to hide, I can assure you. Most of their manuals, bad type-setting, mistakes in the schematics, funky Asian-skewed grammar, and all, are pretty thorough.

> I was just wondering if it was an ability that was not specifically
> mentioned, or maybe if there was an easy conversion method people had
> possibly already done.

Just to buy a largish inverter and use that to produce 120 VAC. Be sure it's a good sine-wave producing inverter, and not one with a crusty, badly-shaped square wave with lots of ringing and rough edges.

No, if you want DC operations that are built in, you need to get the S model, not the SP. (Same as with my 520SE. No DC power, among other things.)

--
Wes Will
N9KDY

46964. Name signature

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-13 12:40:35 UTC
From: Mike W5RKL
Topic: 46964 Message: 46964

A reminder to everyone. All members who post messages on this group are required to end their message(s) with a signature. The signature can be the member's first name and call sign (if you are licensed ham and have been issued a call sign) or your first name (Christian name) if you are not a licensed ham.

Screen names such as "lcd244", "gigawatt920", "iah19" etc., are not acceptable "signatures" at the end of a member's message. "Screen names" can only be used as part of a member's email address.

The group rules are contained in a message located in the "Files" section of the group's homepage in a folder titled "AUTOTEXT MSGS".

73
Mike W5RKL
TS_520_820_530_830 Group Moderator

46965. Re: [TS-520_820_530_830] Nifty neutralization trick

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-13 14:44:43 UTC
From: Craig Roberts
Topic: 34493 Message: 46965

Thanks, Joe. Yes, it certainly is a nice feeling to get on the air with a formerly unwell radio that you've restored to health. This one was especially gratifying since it arrived in very poor, disused and abused condition. It now looks and acts like new.

The repair/restoration would probably have been a three hour project for an experienced KW hybrid tech. It took me three WEEKS -- much of the time spent in nervous procrastination over the prospect of pulling and servicing boards with which I was unfamiliar for fear of "making bad matters worse." (I have some experience in this area as I have learned about other unfamiliar radios in the past). In the end, though, all is well. The credit goes largely to members of this forum who have offered advice, assistance, encouragement and, in one case, a rare and needed part! I hope in time to become expert enough to offer as well as request advice to fellow KW owners.

On another topic -- I heartily second Terry's call for an heroic someone to machine replacement collars for the KW hybrids' "chain drive". The original nylon ones on both of my radios (530S and 830S) are severely cracked at the set screws. As Terry noted, this is not atypical and can lead to sync problems with VC1, VC2 and VC3. I'm sure many of us would be willing to pay handsomely -- if not extravagantly -- for new sprocket collars.

73,

Craig
W3CRR

>

46966. Nylon gear collar repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-13 17:27:13 UTC
From: Craig Roberts
Topic: 34493 Message: 46966

It's lunchtime here at the salt mine, so I've spent a few minutes researching adhesives that MIGHT facilitate repairing those inevitably cracked nylon "drive chain" gear collars that keep VC1, VC2 and VC3 in sync on our radios' Drive shaft.

Loctite offers an epoxy "plastic bond" product that allegedly works on nylon. So does 3M and a company called Reltek, whose website exhibits some highly technical white papers on the subject of bonding recalcitrant plastics.

Has anyone had any success with any of these products or similar ones? While I, like Terry, hope that someone will offer reproduction gear collars someday, I am not checking my email every three minutes to get the good news that it's happening.

One fella online illustrated a repair that appears to involve drilling minute holes on either side of the collar's crack, passing small gauge wire through the holes, then tightening the wires by twisting and securing with solder. I would prefer something a bit more elegant -- like bonding the nylon with some space-age miracle adhesive -- but am not prone to blind experimentation without some spare replacement parts at hand.

Any ideas?

Thanks and 73,

Craig
W3CRR

46967. Nylon gear collar repair. cont'd

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-13 18:39:46 UTC
From: Craig Roberts
Topic: 34493 Message: 46967

Perhaps a manufacturer of miniature (1/4" or 3/16" bore) sprocket and chain sets might have a useful product (subject to a little shimming or reaming out).

For instance:

http://precisionparts.wmberg.com/ecatalog/sprocketsPulleys/en/flt=19/SPROCKET

Just a thought.

73,

Craig
W3CRR

46968. Re: [TS-520_820_530_830] Nylon gear collar repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-13 18:38:03 UTC
From: Joseph Stiles
Topic: 34493 Message: 46968

Craig,

  Sometime in the recent past, a group member came up with an "elegant" repair..involving some copper pipe pieces. Take a look in the files section...or search the files section in "conversations." For the life of me, I can't remember his name or call...but it was a rather "elegant" repair.

73 Joe
WB7UQU

On Monday, January 13, 2014 9:27 AM, Craig Roberts <crgrbrts@...> wrote:

>It's lunchtime here at the salt mine, so I've spent a few minutes
>researching adhesives that MIGHT facilitate repairing those inevitably
>cracked nylon "drive chain" gear collars that keep VC1, VC2 and VC3 in
>sync on our radios' Drive shaft.
>
>Loctite offers an epoxy "plastic bond" product that allegedly works on
>nylon. So does 3M and a company called Reltek, whose website exhibits
>some highly technical white papers on the subject of bonding
>recalcitrant plastics.
>
>Has anyone had any success with any of these products or similar ones?
>While I, like Terry, hope that someone will offer reproduction gear
>collars someday, I am not checking my email every three minutes to get
>the good news that it's happening.
>
>One fella online illustrated a repair that appears to involve drilling
>minute holes on either side of the collar's crack, passing small gauge
>wire through the holes, then tightening the wires by twisting and
>securing with solder. I would prefer something a bit more elegant --
>like bonding the nylon with some space-age miracle adhesive -- but am
>not prone to blind experimentation without some spare replacement parts
>at hand.
>
>Any ideas?
>
>Thanks and 73,
>
>Craig
>W3CRR
>
>
>
>
>

46969. Re: [TS-520_820_530_830] Nylon gear collar repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-13 18:54:53 UTC
From: Craig Roberts
Topic: 34493 Message: 46969

Thanks, Joe. I'll search the archives.

Elegance is terribly important to me 'cuz I'm a real classy guy.

73,

Craig
W3CRR

46970. Re: [TS-520_820_530_830] Nylon gear collar repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-13 19:16:37 UTC
From: Craig Roberts
Topic: 34493 Message: 46970

Oh, yes. The solutions offered by Peter, KC2RBX, and the anonymous source of the copper tubing idea are terrific.

For me, the copper tubing sleeving method is the way to go. Thanks again, Joe, for the reference.

If Peter's QRZ.com photos are any indication, he is a dual KW hybrid and Drake fan. It appears that there are quite a few of us KW/Drake aficionados. In fact, several of the same personalities check into the weekend Drake Technical and Kenwood Hybrid nets. I can understand brand loyalties to the American manufacturers, but the mix of Kenwood hybrid (and maybe Yaesu?) fans among the loyalists is interesting.

I am among them. I used to work for Heathkit and have counted Collins, Ten Tec, Drake, Swan and even the esoteric Patcomm as among my favored radios as well. As I mentioned before, I had not owned any Japanese HF rigs until I acquired my first 530S last year and became a convert. Maybe that's more common than I would have thought.

Hmmm.

73,

Craig
W3CRR

46971. Re: [TS-520_820_530_830] Can TS-530SP run on DC instead of AC?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-13 21:47:48 UTC
From: <james27613@...>
Topic: 46957 Message: 46971

Hi,

Skip the inverter and look for a nice used APC SmartUps on ebay,
get one from a seller close to you to save on freight or even better,
get one without the battery and get a new battery locally inexpensive and
save on the shipping.

The SmartUps series is full sine wave, not step or modified and will
auto start without an y AC power with internal batteries charged.

Not as efficient as running the radio off the 120V AC but if you want DC then that is one
way.

73 james ke4drn

46972. Re: [TS-520_820_530_830] Nylon gear collar repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-13 21:22:45 UTC
From: Thomas Bewick
Topic: 34493 Message: 46972

If you don't mind spending a little money. They are available from K4EAA
Here;

http://www.k4eaa.com/parts.htm

73,
Tom K2BEW

On Mon, Jan 13, 2014 at 12:27 PM, Craig Roberts <crgrbrts@...>wrote:

>
>
> It's lunchtime here at the salt mine, so I've spent a few minutes
> researching adhesives that MIGHT facilitate repairing those inevitably
> cracked nylon "drive chain" gear collars that keep VC1, VC2 and VC3 in
> sync on our radios' Drive shaft.
>
> Loctite offers an epoxy "plastic bond" product that allegedly works on
> nylon. So does 3M and a company called Reltek, whose website exhibits
> some highly technical white papers on the subject of bonding
> recalcitrant plastics.
>
> Has anyone had any success with any of these products or similar ones?
> While I, like Terry, hope that someone will offer reproduction gear
> collars someday, I am not checking my email every three minutes to get
> the good news that it's happening.
>
> One fella online illustrated a repair that appears to involve drilling
> minute holes on either side of the collar's crack, passing small gauge
> wire through the holes, then tightening the wires by twisting and
> securing with solder. I would prefer something a bit more elegant --
> like bonding the nylon with some space-age miracle adhesive -- but am
> not prone to blind experimentation without some spare replacement parts
> at hand.
>
> Any ideas?
>
> Thanks and 73,
>
> Craig
> W3CRR
>
>
>

46973. Re: [TS-520_820_530_830] Nylon gear collar repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-13 22:25:53 UTC
From: James Scribner
Topic: 34493 Message: 46973

May be more common than you think Craig. I have run Kenwood 820 at home and mobile for years. It's my 24-7 radio at home. Felt somewhat odd checking into Texas Boat Anchor Net on Wed nites so for last few months I've been on a Drake TR-4. Always wanted one, opportunity knocked, rest is history. Just lovin' both!
73 All
W5SWM
Jim

46974. Re: [TS-520_820_530_830] Nylon gear collar repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-14 00:02:59 UTC
From: <wagstw46@...>
Topic: 34493 Message: 46974

Tom:

We are talking about the white nylon ladder chain 10 tooth sprockets on the Drive Control shaft for VC-1, VC-2, and VC-3 on the TS-530 and TS-830 rigs and not the white nylon flex grid member shaft couplers used on the band switch and the Plate load capacitor drive shafts.

The sprocket hubs develop cracks at the allen head screw tapped holes allowing the sprockets to slip and the air variable caps get out of sync which affects ability to peak the Rx and Tx and can make ALC drive indication very touchy.

Kens brass couplers no help here. Two completely different issues.

Terry K9TW

46975. Re: [TS-520_820_530_830] Nylon gear collar repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-14 04:58:46 UTC
From: Thomas Bewick
Topic: 34493 Message: 46975

Thanks Terry,

I see my mistake now.
I went again to Ken's website and looked at them, and the intallation pictures he has.
Just got a TS-520 myself and joined the group, so i am glad for the education.

73,
Tom, K2BEW

46976. Re: [TS-520_820_530_830] Nylon gear collar repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-14 12:34:20 UTC
From: <wagstw46@...>
Topic: 34493 Message: 46976

Tom:

No problem your heart was in right place. Lots of folks want to jump in and help, but always best to go to the rig specific documentation and look at it first. Only takes a few seconds. Some pull the trigger without looking at the schematic or service manual. If a person doesnt own a TS-530/830 and has never seen the covers off kind of silly to be providing counsel.

It is one thing to make a mistake as we all do being human, but to offer advice when have no knowledge or experience helps no one. Always a challenge for new folks to sort out the BS from the good. Fortunately enough of us on here to keep each other straight. Just cant be too sensitive and think when corrected you are being dissed. Not saying you did that, but it is commonly done. We are social beast and some just feel compelled to join the fray. Maybe just need the recognition and group acceptance? With time you will earn the group respect by the quality of the counsel you provide.

Lots of no value KW hybrid advice on the various forums that I read. Some favorites:

1. I owned a TS520 30 years ago and here is how I remember it working or how I fixed it. I think the guy has slept since then and did he really ever have the covers off and would a brand new rig exhibit same operational problem as a 30 year old one? Pretty useless counsel.

2. I dont own a KW hybrid but my Yaesu FT-101 had same problem and this is how I fixed it. Even more Useless!

3. Why are you talking about ALC when loading the rig? Dont you mean Grid Current? What is the grid current reading? This person thinks we are loading an old Class C 6146 CW transmitter. No clue how RF drive level is peaked and indicated on a KW hybrid.

Many more examples but I see the above quite a bit.

As men we all know all there is about gas lawn more engine that wont start. Doe not matter what make or model we all jump in and share bits of wisdom. We know it from birth! Check the spark, does it have gas, is it flooded, did you choke it, did you prime it, has flywheel key shifted when the blade hit that rock and on and on. Now same 1/2 horse power electric motor wont start and there will be silence! Electricity and electronics shifts things to black magic!

So glad you got a TS520 and joined this group. Looked at your QRZ page and made me smile as it brought back memories of me and my Dad and my first crystal set!

73s Terry
K9TW

46977. Re: [TS-520_820_530_830] Nylon gear collar repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-14 13:37:10 UTC
From: Craig Roberts
Topic: 34493 Message: 46977

Welcome to the group. Tom.

Love the Radiola! I'm also an antique broadcast set collector/restorer. The earliest one I have at present is a three dial 1924 Silvertone Neutrodyne (made by King). In the living room is another Sears Silvertone offering: an AM/SW console from 1938. It came with a bonus in mint condition: a brochure and world map, provided by Sears with the radio, promoting shortwave broadcast listening as a way of keeping up with world events. The map and statistical annotation depicts the military strength of major nations. At the time, the U.S. Army and Navy were dwarfed by the forces in Japan, Germany and even Italy (as we were soon to learn to our detriment).

Fascinating stuff! Oh - and thank you for passing along the legacy to your son.

73,

Craig
W3CRR

46978. Re: [TS-520_820_530_830] Nylon gear collar repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-14 14:21:20 UTC
From: jpr3232819@...
Topic: 34493 Message: 46978

and I stayed at a HOLIDAY INN EXPRESS LAST NIGHT LOL

In a message dated 1/14/2014 8:34:22 A.M. SA Western Standard Time, wagstw46@... writes:

Tom:

No problem your heart was in right place. Lots of folks want to jump in and help, but always best to go to the rig specific documentation and look at it first. Only takes a few seconds. Some pull the trigger without looking at the schematic or service manual. If a person doesnt own a TS-530/830 and has never seen the covers off kind of silly to be providing counsel.

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Lots of no value KW hybrid advice on the various forums that I read. Some favorites:

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2. I dont own a KW hybrid but my Yaesu FT-101 had same problem and this is how I fixed it. Even more Useless!

3. Why a re you talking about ALC when loading the rig? Dont you mean Grid Current? What is the grid current reading? This person thinks we are loading an old Class C 6146 CW transmitter. No clue how RF drive level is peaked and indicated on a KW hybrid.

Many more examples but I see the above quite a bit.

As men we all know all there is about gas lawn more engine that wont start. Doe not matter what make or model we all jump in and share bits of wisdom. We know it from birth! Check the spark, does it have gas, is it flooded, did you choke it, did you prime it, has flywheel key shifted when the blade hit that rock and on and on. Now same 1/2 horse power electric motor wont start and there will be silence! Electricity and electronics shifts things to black magic!

So glad you got a TS5 20 and joined this group. Looked at your QRZ page and made me smile as it brought back memories of me and my Dad and my first crystal set!

73s Terry
K9TW

46979. Sometimes forgotten cleaning step

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-14 17:23:07 UTC
From: Craig Roberts
Topic: 34493 Message: 46979

My recently completed TS-830S was left with one anomaly -- or at least what I suspected was one. The Drive, Plate and Load controls were all a bit "glitchy." That is -- to employ wholly non-technical language -- transitions were not smooth but jumpy in spots.

While this operational characteristic seemingly did not affect the radio's overall performance, it was annoying if not worrisome. It was also cured very simply by an elementary step that I should have taken at the outset of my repair and restoration work.

A cleaning of each variable capacitor's rotor wiper junction with denatured alcohol followed by a drop of CorrosionX (or DeoxIT, if you prefer) made the controls silky smooth both in feel and effect. I had been so concerned with decontaminating the notoriously troublesome band switch and the Molex connectors that I overlooked this simple and effective step in restoring the radio to like-new performance.

Now, I think I'll just enjoy USING the 830 for a spell.

OH - a couple of years ago Mark Gilger, WB0IQK, an old friend and mentor of many of us in the Kenwood and Drake communities, contributed a terrific tip on repairing the lately discussed nylon sprocket and chain drive assemblies on our hybrids. It's in our archives, but he's just worked up a new "tip sheet" on the method. It's simple, works well and involves NO disassembly of the radio other than removing the top cover. (Whoopee!) Basically, it involves applying a suitable adhesive to the cracks around the set screws, backing out the screws to relieve pressure on the sprocket wheels and closing the gap by cinching the sprocket with an encircling, small cable tie and letting the adhesive cure for a day.

As I mentioned yesterday, Loctite Epoxy Plastic Bonder allegedly works on Nylon. I'm picking up some at Home Depot tonight and will let you know how it worked with Mark's method in a couple of days.

73,

Craig
W3CRR

46980. RE: Sometimes forgotten cleaning step

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-14 18:27:11 UTC
From: <wagstw46@...>
Topic: 34493 Message: 46980

Dont forget that the Plate Load air variable has four rotor shaft wipers.

Also, a "glitchy" Drive control is very often due to bad solder connections at the heavy square lugs of VC-1, VC-2, and VC-3 and not so much due to dirty rotor wiper contacts.

You can usually tell that by tapping on or tugging on each air variable. Of course have to remove the RF board to inspect these connections under good light and magnification. Same with the Driver tube socket lug soldering. These joints crack due to the pull and pressing of many tube change outs which flex the pc board.

On the 3 Drive control air variables I recommend removing the old solder and lightly filing the lugs bright and then re-soldering. Makes a world of difference with touchy Drive control. Receiver gain will often come up especially on higher bands and ALC indication will be stronger and not so jumpy.

Only problem I have with the Ty-rap method is you cannot get a good complete tight contact around the hub circumference due to the raised heads of the allen screws and cant adjust the sprockets with allen heads covered so have to make adjustments at the big sprockets. I suppose could try using a wider Ty-wrap and drilling holes for the allen heads?

Let us know what you come up with. I have rig here now with severely cracked sprockets. I am willing to bet that some hobby supply house has miniature ladder chain and sprockets made of brass or alum or SS with same pitch and teeth count.With all the robotics going on today just has to be replacements available from some source?

Terry K9TW

46981. Time to look to a higher power

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-14 16:37:17 UTC
From: <kmx888@...>
Topic: 46981 Message: 46981

I have a 530S with several problems. I am over my head and think it is time to send it out so I do not create any more self induced problems. Any current recommendations for repair guys?

Kevin
KD0ILM/XV2KM

46982. Re: [TS-520_820_530_830] Time to look to a higher power

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-14 18:38:49 UTC
From: Joseph Stiles
Topic: 46981 Message: 46982

Kevin,

There is a list in the "files section" of this group...but you may want to take a look at:

wb4hfn "dot" com lots of good info, and a list of persons willing to do KW hybrid repair

73 Joe
WB7UQU

On Tuesday, January 14, 2014 10:35 AM, "kmx888@..." <kmx888@...> wrote:

>I have a 530S with several problems. I am over my head and think it is time to send it out so I do not create any more self induced problems. Any current recommendations for repair guys?
>Kevin
>KD0ILM/XV2KM
>
>
>

46983. Re: [TS-520_820_530_830] RE: Sometimes forgotten cleaning step

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-14 19:11:26 UTC
From: Craig Roberts
Topic: 34493 Message: 46983

Yeah, I looked into the hobby supply idea. All I could find -- mainly for RC model use -- were sprocket wheels fitting 1/8" shafts with insufficient shoulders to drill out to .238". There are some miniature sprocket wheels made to fit 3/16" shafts, but it appears they would have to be shimmed.

It seems that some good hearted soul could make a mold from an stock piece and cast replicas in Delrin or whatever.

I'll keep everyone posted on the results of the WB0IQK sprocket repair experiment. I am also tempted by the copper tube sleeve method. It'd look cool if nothing else :-).

73,

Craig
W3CRR
>

46984. Time to find a higher power.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-14 18:30:50 UTC
From: <kmx888@...>
Topic: 46984 Message: 46984

I am having all sorts of problems with my 530S. Some are self-induced I am sure. I have come to the conclusion that I am in over my head and want to send it to a repair person. .Any current recommendations? The fellow I have used in the past is now avoiding Hybrids.
Kevin
KD0ILM/XV2KM

46985. Re: [TS-520_820_530_830] RE: Sometimes forgotten cleaning step

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-14 19:56:50 UTC
From: Craig Roberts
Topic: 34493 Message: 46985

I have just emailed a plastic parts fabrication firm in Houston to see if having these sprocket wheels replicated in a relatively small quantity is feasible. This is one of those "how hard can it be?" situations but, as you point out, Terry, this may very well be too small a job for a commercial firm to bother with.

When I have some time, I will explore hobbyist blogs and forums to see if someone would like to tackle this job for fun.

Craig
W3CRR

46986. Re: Time to find a higher power.Try These???

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-14 19:58:27 UTC
From: Stephen Crain
Topic: 46986 Message: 46986

http://www.k4eaa.com/

http://www.affordableradiorepair.com/

http://hamrepair.com/

http://oldhamdave.com/

I have not used any of them but they have been around for awhile.

46988. Re: [TS-520_820_530_830] RE: Sometimes forgotten cleaning step

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-14 20:16:47 UTC
From: Gregory Graham
Topic: 34493 Message: 46988

I am trying to get a handle on the multiple emails about repairing and fixing the sprockets on the Kenwoods. I know for many there is no other way than to fix the broken sprockets with string, glue, tape, wire and tubing and maybe bubble gum. It almost drives me crazy to hear about these repairs but I know they are done because there seams to be no other way to repair them. So, let me ask some simple questions. How many would be consumed in a year or two if some replacement parts were made? Terry has offered to send me some sample parts to copy and I think I can make some nice replacements. I would be willing to make a few and have them reviewed by some experts, before and as I make them, that know the quality that is required. Then we can see if among us there is a need for some replacement sprockets. It seams to me if it is worth doing and if the radio holds some value then doing it right is important. I await some remarks.
Gregory
NR6C

46989. Re: [TS-520_820_530_830] RE: Sometimes forgotten cleaning step plus possible sprocket source

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-14 20:30:27 UTC
From: Tom Armstrong
Topic: 46989 Message: 46989

It's possible that some of the sprockets here might work:

http://www.halebros.com/sprockets.html

I haven't compared the spec to the OEM Kenwod parts, but they look to be very close.

Tom
KB7VXY

46990. Re: [TS-520_820_530_830] RE: Sometimes forgotten cleaning step

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-14 20:34:38 UTC
From: Joseph Stiles
Topic: 34493 Message: 46990

Gregory,

There is a market for everything, it's just how much time and effort are you willing to expend? Ken Kemski-k4eaa, spent uncounted hours of time & effort to reproduce the Kenwood KB-1 "weighted" spinner knob. It was a masterpiece! He had trouble with the anodizing to start..but when it was right...WOW! He sold out quickly..but due to some problems, he's a not had anymore reproduced. I am sure however that you can get many people "on the band wagon" with a re-manufactured sprocket. The operable design is sound...just the attachment method was not. I for one, would be on the "band wagon" with a well designed replacement part that could have some sort of a metal insert to have the set screws screw into

73 Joe
WB7UQU

On Tuesday, January 14, 2014 12:23 PM, Gregory Graham <tbirdgreg@...> wrote:

>I am trying to get a handle on the multiple emails about repairing and
>fixing the sprockets on the Kenwoods. I know for many there is no
>other way than to fix the broken sprockets with string, glue, tape, wire
>and tubing and maybe bubble gum. It almost drives me crazy to hear
>about these repairs but I know they are done because there seams to be
>no other way to repair them. So, let me ask some simple questions.
>How many would be consumed in a year or two if some replacement parts
>were made? Terry has offered to send me some sample parts to copy and
>I think I can make some nice replacements. I would be willing to make
>a few and have them reviewed by some experts, before and as I make them,
>that know the quality that is required. Then we can see if among us
>there is a need for some replacement sprockets. It seams to me if it
>is worth doing and if the radio holds some value then doing it right is
>important. I await some remarks.
>Gregory
>NR6C
>
>
>
>

46991. Re: [TS-520_820_530_830] Re: Time to find a higher power.Try These???

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-14 20:41:33 UTC
From: Joseph Stiles
Topic: 46986 Message: 46991

As mention numerous times before: posts are REQUIRED to be signed with your first (Christian) name and your call sign...if any

73 Joe
WB7UQU
TS-520...etc Group Co-owner

On Tuesday, January 14, 2014 11:58 AM, Stephen Crain <stefenrcrain@...> wrote:

>http://www.k4eaa.com/
>
>
>http://www.affordableradiorepair.com/
>
>
>http://hamrepair.com/
>
>
>http://oldhamdave.com/
>
>
>I have not used any of them but they have been around for awhile.
>
>
>

46992. Re: [TS-520_820_530_830] Re: Time to find a higher power.Try These???

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-14 20:53:05 UTC
From: Stephen Crain
Topic: 46986 Message: 46992

Sorry I don't multitask well. Anything else I've missed?
Stephen, KG0K

From: Joseph Stiles <stilesjoseph@yahoo.com>
To: "TS-520_820_530_830@yahoogroups.com" <TS-520_820_530_830@yahoogroups.com>
Sent: Tuesday, January 14, 2014 2:41 PM
Subject: Re: [TS-520_820_530_830] Re: Time to find a higher power.Try These???

As mention numerous times before: posts are REQUIRED to be signed with your first (Christian) name and your call sign...if any

73 JoeWB7UQUTS-520...etc Group Co-owner

On Tuesday, January 14, 2014 11:58 AM, Stephen Crain <stefenrcrain@...> wrote:

>http://www.k4eaa.com/
>
>
>http://www.affordableradiorepair.com/
>
>
>http://hamrepair.com/
>
>
>http://oldhamdave.com/
>
>
>I have not used any of them but they have been around for awhile.

46994. Re: [TS-520_820_530_830] RE: Sometimes forgotten cleaning step

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-14 21:09:26 UTC
From: Craig Roberts
Topic: 34493 Message: 46994

Hello Gregory,

I'm sure many if not most of us would warmly welcome someone who could replicate these sprocket wheels in a suitable, durable material. I do not know of the mechanical properties of Nylon, but supposedly the original Nylon wheels became brittle with age and may have shrunk in the heat to which they were subjected for decades. At any rate, all three of the sprocket wheels in my TS-830S and the same number in my TS-530S are cracked along the set screw holes from what appears to be unequal expansion of metal against plastic. I would guess that the vast majority of Kenwood hybrid owners have similarly damaged radios.

Heck, I'd buy at least a dozen of the reproduction items right off the bat to repair my existing radios and have spares for new acquisitions.

You wouldn't become a millionaire by serving this niche market, but you'd sure gain a lot of friends!

73,

Craig
W3CRR

46995. RE: Time to find a higher power.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-14 21:14:48 UTC
From: <wagstw46@...>
Topic: 46984 Message: 46995

Kevin:

I would say if he is avoiding KW Hybrids he was probably the wrong fellow to begin with. Far better to send to someone who specializes in KW hybrids than a general radio repair shop or boat anchor repair shop.

I cant remember if we tried to help you or not? Are you certain you have exhausted the help from this group?

Nothing wrong with recognizing when it is time to send off to a "pro". Just make sure that you pack it to survive the rigors of the journey. Probably the highest jeopardy and the poorest attention to detail in my experience.

Terry K9TW

46996. TS830S: 220 or 240 VAC?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-14 21:36:14 UTC
From: ravnpeter@ymail.com
Topic: 46996 Message: 46996

When I got my TS830s last year, the power switch on the rear was set to 240 VAC.It is still there. Main line voltages in my house are, however, 225 VAC, so one would assume that the switch should be set to 220VAC.

73
Peter OZ8CTH

46997. Re: [TS-520_820_530_830] RE: Sometimes forgotten cleaning step

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-14 22:00:00 UTC
From: Mark Gilger
Topic: 34493 Message: 46997

You might also want to contact Ken, K4EAA and
Mark Olson of National Radio. They both might
want to stock some for future orders.

Mark

At 04:09 PM 1/14/2014, Craig Roberts wrote:
>
>
>Hello Gregory,
>
>I'm sure many if not most of us would warmly welcome someone who could
>replicate these sprocket wheels in a suitable, durable material. I do
>not know of the mechanical properties of Nylon, but supposedly the
>original Nylon wheels became brittle with age and may have shrunk in the
>heat to which they were subjected for decades. At any rate, all three of
>the sprocket wheels in my TS-830S and the same number in my TS-530S are
>cracked along the set screw holes from what appears to be unequal
>expansion of metal against plastic. I would guess that the vast
>majority of Kenwood hybrid owners have similarly damaged radios.
>
>Heck, I'd buy at least a dozen of the reproduction items right off the
>bat to repair my existing radios and have spares for new acquisitions.
>
>You wouldn't become a millionaire by serving this niche market, but
>you'd sure gain a lot of friends!
>
>73,
>
>Craig
>W3CRR
>

46998. Re: [TS-520_820_530_830] Re: Time to find a higher power.Try These???

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-14 22:18:41 UTC
From: Mike W5RKL
Topic: 46986 Message: 46998

I use "Thunderbird" email software which has a "signature" option built in to the "account settings" under "tools".

Thunderbird has 2 signature options, 1) Create signature in the "account settings" by typing the signature in the text area then click the "check box". 2) create a signature file using a simple text editor such as "Notepad", save the text file to your hard drive (remember where you save it) then in the "Account settings", click the check box and enter the location of the signature file then click "OK".

Every message you send will use either of the 2 signatures so you don't have to remember to add a signature at the end of your message.

Each Thunderbird account you have can have it's own email/message signature.

73
Mike W5RKL

On 1/14/2014 2:41 PM, Joseph Stiles wrote:
> As mention numerous times before: posts are REQUIRED to be signed
> with your first (Christian) name and your call sign...if any
>
> 73 Joe
> WB7UQU
> TS-520...etc Group Co-owner
>
>
> On Tuesday, January 14, 2014 11:58 AM, Stephen Crain
> <stefenrcrain@...> wrote:
>
> http://www.k4eaa.com/
>
> http://www.affordableradiorepair.com/
>
> http://hamrepair.com/
>
> http://oldhamdave.com/
>
> I have not used any of them but they have been around for awhile.
>
>
>

46999. Re: [TS-520_820_530_830] Re: Time to find a higher power.Try These???

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-14 23:16:32 UTC
From: Ron
Topic: 46986 Message: 46999

Stephen , Terry on this group is where I would send it to

Ron KK4PWF

On Jan 14, 2014, at 1:58 PM, Stephen Crain <stefenrcrain@...> wrote:

>
>
> http://www.k4eaa.com/
>
> http://www.affordableradiorepair.com/
>
> http://hamrepair.com/
>
> http://oldhamdave.com/
>
> I have not used any of them but they have been around for awhile.
>
>
>

47000. Re: [TS-520_820_530_830] Time to find a higher power.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-14 23:19:26 UTC
From: Ron
Topic: 46984 Message: 47000

Kevin Terry in group would be my choice for repair

Ron KK4PWF

On Jan 14, 2014, at 12:30 PM, <kmx888@...> wrote:

>
>
> I am having all sorts of problems with my 530S. Some are self-induced I am sure. I have come to the conclusion that I am in over my head and want to send it to a repair person. .Any current recommendations? The fellow I have used in the past is now avoiding Hybrids.
> Kevin
> KD0ILM/XV2KM
>
>
>

47001. RE: Time to find a higher power.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-15 02:20:22 UTC
From: <kmx888@...>
Topic: 46984 Message: 47001

Terry,
Yes I have gotten help here and sometimes it has been helpful, especially when I do something fairly ignorant. I do much better with my older Heath equipment because it suits my current skill level better and those rigs are not my primary radios.
I do think that it is time to send this one out. I really like this radio and it is the only one I have in my winter shack. I really want to get back on the air.
Best,
Kevin
KD0ILM/XV2KM

47002. Illustration for how to make HV safe?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-15 02:44:04 UTC
From: <donhoover@...>
Topic: 47002 Message: 47002

Just curios if there is an illustration that shows what to touch to where in order to be safe in the HV areas? I think your supposed to ground a coil or something to the chassis using a insulated screwdriver, but I am not sure what to touch where. So I thought maybe a diagram might be out there.

I'm going to crack my beloved TS-530SP open and I want to learn how to be safe from the beginning. I have to replace the fan on the back of the finals box for one thing. Might do some cleaning and eventually replace some caps and resistors. But I thought I should learn the recommended way to do it safely first.

And a picture is worth a few words anyway.

47003. RE: [TS-520_820_530_830] Time to look to a higher power

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-15 08:53:05 UTC
From: fpath fpath
Topic: 46981 Message: 47003

Kevin,

Would be interested in hearing your issues, I can recommend Terry, not sure if Mike or Gordon are doing many repairs. If you have some electonics knowledge, some test equipment then this is the right forum to learn, ask questions and gain valuable knowledge for this magnificent radios

73s

Dave

VK5PDL

From: kmx888@...
To: TS-520_820_530_830@yahoogroups.com
Date: Tue, 14 Jan 2014 08:37:17 -0800
Subject: [TS-520_820_530_830] Time to look to a higher power

I have a 530S with several problems. I am over my head and think it is time to send it out so I do not create any more self induced problems. Any current recommendations for repair guys?

Kevin
KD0ILM/XV2KM

47004. RE: [TS-520_820_530_830] RE: Sometimes forgotten cleaning step

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-15 08:58:36 UTC
From: fpath fpath
Topic: 34493 Message: 47004

Gregory,

I have located some of the said sprockets from a robotic manufacturer, they will not sell anything less that 1000 units, these are made of SS 316 grade, at $75.00 each I dont think I can afford to buy for my 5 radios. So if you do go ahead and are able to manufacture, then I'll take at least 5 sets for my own radios, then there will be the restorations that come in. Even if you were able to make the sleeves, this would be a huge advantage

73s

Dave

VK5PDL

From: tbirdgreg@...
To: TS-520_820_530_830@yahoogroups.com
Date: Tue, 14 Jan 2014 12:16:47 -0800
Subject: Re: [TS-520_820_530_830] RE: Sometimes forgotten cleaning step

I am trying to get a handle on the multiple emails about repairing and
fixing the sprockets on the Kenwoods. I know for many there is no
other way than to fix the broken sprockets with string, glue, tape, wire
and tubing and maybe bubble gum. It almost drives me crazy to hear
about these repairs but I know they are done because there seams to be
no other way to repair them. So, let me ask some simple questions.
How many would be consumed in a year or two if some replacement parts
were made? Terry has offered to send me some sample parts to copy and
I think I can make some nice replacements. I would be willing to make
a few and have them reviewed by some experts, before and as I make them,
that know the quality that is required. Then we can see if among us
there is a need for some replacement sprockets. It seams to me if it
is worth doing and if the radio holds some value then doing it right is
important. I await some remarks.
Gregory
NR6C

47005. RE: Time to find a higher power.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-15 11:38:46 UTC
From: <wagstw46@...>
Topic: 46984 Message: 47005

OK contact me off the reflector to discuss the performance issues and how I may be able to help you.

Terry K9TW

47006. Re: [TS-520_820_530_830] RE: Sometimes forgotten cleaning step

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-15 15:41:31 UTC
From: Gregory Graham
Topic: 34493 Message: 47006

Dave
Thanks for your input. This is a somewhat slow process, first
I'll get a sample of the original parts, then reverse engineer the part
with some changes to overcome the historical failures, then make some
prototype parts, review and test them by qualified folks, then evaluate
what it takes to make them in small quantity. I'll keep the group
posted as things progress.

Gregory
NR6C

On 1/15/2014 12:58 AM, fpath fpath wrote:
>
> Gregory,
>
> I have located some of the said sprockets from a robotic
> manufacturer, they will not sell anything less that 1000 units, these
> are made of SS 316 grade, at $75.00 each I dont think I can afford
> to buy for my 5 radios. So if you do go ahead and are able to
> manufacture, then I'll take at least 5 sets for my own radios, then
> there will be the restorations that come in. Even if you were able to
> make the sleeves, this would be a huge advantage
>
> 73s
> Dave
> VK5PDL
>
> ----------
> From: tbirdgreg@...
> To: TS-520_820_530_830@yahoogroups.com
> Date: Tue, 14 Jan 2014 12:16:47 -0800
> Subject: Re: [TS-520_820_530_830] RE: Sometimes forgotten cleaning step
>
> I am trying to get a handle on the multiple emails about repairing and
> fixing the sprockets on the Kenwoods. I know for many there is no
> other way than to fix the broken sprockets with string, glue, tape, wire
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> is worth doing and if the radio holds some value then doing it right is
> important. I await some remarks.
> Gregory
> NR6C
>
>

47007. Re: [TS-520_820_530_830] RE: Sometimes forgotten cleaning step

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-15 21:10:10 UTC
From: <wagstw46@...>
Topic: 34493 Message: 47007

Gregory:

Sprockets, drive shaft, and ladder chain in the US mail. Should arrive your QTH Saturday.

Terry K9TW

47008. What's happening?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-15 21:18:35 UTC
From: Craig Roberts
Topic: 34493 Message: 47008

This is not a service question nor a technical query. It's an alarming observation. (At least it's alarming to me).

I am looking for a nice TS-940S -- basically so I will have a 12V radio in the shack since I have sold everything except my boatanchors and KW hybrids. I began my shopping, as usual, on eBay. However, all I can find are purloined parts -- circuit boards, switches assemblies, pots, chassis bits, etc. But, no intact radios. This is the case for nearly all rigs "of a certain age", including our hybrids and those of Yaesu.

I know that y'all have noted the same trend. It disturbs me. Do the radio "chop shops" actually make significantly more money selling bits that they do peddling whole radios, even if they need some repair? I understand the needs for parts radios and I value our traditional sources for proprietary components. But, really....? Do ALL of our favored radios have to be torn asunder?

What do you think of this practice?

73,

Craig
W3CRR

47009. Re: [TS-520_820_530_830] RE: Sometimes forgotten cleaning step

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-15 21:22:33 UTC
From: Craig Roberts
Topic: 34493 Message: 47009

Gregory,

Now that Terry has launched the effort on our behalf, our hopes and dreams lie with you. With innocent and moist, wide-eyed anticipation, we look to you for salvation from the sins of our unsteady drive trains.

73,

Craig
W3CRR

47010. Re: [TS-520_820_530_830] What's happening?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-15 21:39:28 UTC
From: Mark Gilger
Topic: 34493 Message: 47010

Craig,

I have an extra one that I just picked up. It's a 6 million s/n with
a few minor dings to the paint as most have. Email me direct for info.

Oh one thing. The TS-940s is not a 12 volt radio. You plug it into
110ac. So you sure your thinking the radio you want is a 940 and not
something like say a TS440s?

Mark

At 04:18 PM 1/15/2014, Craig Roberts wrote:

>This is not a service question nor a technical query. It's an alarming
>observation. (At least it's alarming to me).
>
>I am looking for a nice TS-940S -- basically so I will have a 12V radio
>in the shack since I have sold everything except my boatanchors and KW
>hybrids. I began my shopping, as usual, on eBay. However, all I can find
>are purloined parts -- circuit boards, switches assemblies, pots,
>chassis bits, etc. But, no intact radios. This is the case for nearly
>all rigs "of a certain age", including our hybrids and those of Yaesu.
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>I know that y'all have noted the same trend. It disturbs me. Do the
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>that they do peddling whole radios, even if they need some repair? I
>understand the needs for parts radios and I value our traditional
>sources for proprietary components. But, really....? Do ALL of our
>favored radios have to be torn asunder?
>
>What do you think of this practice?
>
>73,
>
>Craig
>W3CRR
>
>
>------------------------------------
>
>Yahoo Groups Links
>
>
>

47011. Sprockets

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-15 20:55:59 UTC
From: <ki4wcq52@...>
Topic: 47011 Message: 47011

I tried to post this earlier, but apparently it failed. This link: https://sdp-si.com/eStore/Catalog may provide a replacement or substitute sprocket. They have lots of them in various configurations and the price seems to range from $6-$15 depending on style.

They have no minimum order, but under $50 will have shipping and handling added.

The customer service number is on the home page, and James at Ext 491 said he'd be glad to help find a replacement or substitute. They also do custom orders, but i didn't inquire as I didn't know the specs of the current sprocket.

73
Johnny, KI4WCQ

47012. Re: [TS-520_820_530_830] RE: Sometimes forgotten cleaning step

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-15 21:25:56 UTC
From: Gregory Graham
Topic: 34493 Message: 47012

Terry
Good enough, I'll be on the look out.
Thanks

Gregory
NR6C

On 1/15/2014 1:10 PM, wagstw46@... wrote:
>
> Gregory:
>
>
> Sprockets, drive shaft, and ladder chain in the US mail. Should arrive
> your QTH Saturday.
>
>
> Terry K9TW
>
>

47013. Re: [TS-520_820_530_830] Nylon gear collar repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-15 20:29:27 UTC
From: <ki4wcq52@...>
Topic: 34493 Message: 47013

This might be a source for sprockets that will work. Looks like they have a lot of possibilities, not sure if they have a direct replacement since I did not have specifications for the existing one.

https://sdp-si.com/eStore/Catalog

I called customer service and they said no minimum order, although under $50 they would add shipping and handling. The prices seemed to be in the $6-$15 range for a few I guessimated might work.

Customer service rep was James at ext 491 (number is on the website) and he said he would help you find the right one or a substitute. He mentioned that they can also fabricate a special order, but I didn't inquire as to the price lacking the specs.

73
Johnny KI4WCQ

47014. Re: [TS-520_820_530_830] What's happening?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-15 21:57:10 UTC
From: Joseph Stiles
Topic: 34493 Message: 47014

Craig,

Your observations are keen "grasshopper!" I "surf" ebay all the time and know what your are talking about. So...say you have a 520, 820, 530, 830...that needs an RF board, IF board...or something else??.....what's it worth to you to get it back in working order? I do admit that my diagnostic skills are at time lacking...and ...I'm probably going to get some flack for this...it's easier to ...arrrrgggg....put in a "known working" board/part. The aforementioned practice was the prime motivating factor in me joining this group. My skills still have a long way to go..but I can now fix numerous problems...that prior...I could not. This skill was obtained by the generous help of several "tolerant" group members...and lots of home study.

  Anyway...IF your prime motivation is $$$...you can make more $$$ off just a few "prime" pieces...than a whole rig. There is/are several group members out there that sell parts as a business...so PLEASE don't take offense...you are not here/there to destroy these fine rigs to make a few $$, just helping to preserve them. I have purchased some parts off one particular ebay seller...he stated...he makes more $$ off selling parts...than selling a whole WORKING rig! XYL stated..one more rig and I'm gone....gee...I think I'll miss her! hihi

73 Joe
WB7UQU

On Wednesday, January 15, 2014 1:39 PM, Mark Gilger <mgilger@brightdsl.net> wrote:

>Craig,
>
>I have an extra one that I just picked up. It's a 6 million s/n with
>a few minor dings to the paint as most have. Email me direct for info.
>
>Oh one thing. The TS-940s is not a 12 volt radio. You plug it into
>110ac. So you sure your thinking the radio you want is a 940 and not
>something like say a TS440s?
>
>Mark
>
>At 04:18 PM 1/15/2014, Craig Roberts wrote:
>
>>This is not a service question nor a technical query. It's an alarming
>>observation. (At least it's alarming to me).
>>
>>I am looking for a nice TS-940S -- basically so I will have a 12V radio
>>in the shack since I have sold everything except my boatanchors and KW
>>hybrids. I began my shopping, as usual, on eBay. However, all I can find
>>are purloined parts -- circuit boards, switches assemblies, pots,
>>chassis bits, etc. But, no intact radios. This is the case for nearly

>>all rigs "of a certain age", including our hybrids and those of Yaesu.
>>
>>I know that y'all have noted the same trend. It disturbs me. Do the
>>radio "chop shops" actually make significantly more money selling bits
>>that they do peddling whole radios, even if they need some repair? I
>>understand the needs for parts radios and I value our traditional
>>sources for proprietary components. But, really....? Do ALL of our
>>favored radios have to be torn asunder?
>>
>>What do you think of this practice?
>>
>>73,
>>
>>Craig
>>W3CRR
>>
>>
>>----------
>>
>>Yahoo Groups Links
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47015. Re: [TS-520_820_530_830] What's happening?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-15 22:01:28 UTC
From: Gordon JC Pearce
Topic: 34493 Message: 47015

On Wed, Jan 15, 2014 at 04:18:35PM -0500, Craig Roberts wrote:
>
> What do you think of this practice?

You see the same thing with musical equipment too. About a year ago, I offered to buy a non-running Ensoniq Mirage off a guy for ?50 (way over the odds, but it had a very clean case and a large library of disks) but he reckoned he'd get more if he parted it out.

I see he still has just about all of it up on eBay, from time to time. Oh well.

--
Gordonjcp MM0YEQ

47016. Re: [TS-520_820_530_830] What's happening?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-15 21:58:47 UTC
From: <wa2lbi@...>
Topic: 34493 Message: 47016

Craig,

I owned a TS-940SAT. It runs on 120VAC/220VAC/240VAC only. There is no option for 12VDC.

Ken
WA2LBI

From: Craig Roberts
Sent: □Wednesday□, □January□ □15□, □2014 □16□:□18
To: TS-520_820_530_830@yahoogroups.com

I am looking for a nice TS-940S -- basically so I will have a 12V radio
in the shack since I have sold everything except my boatanchors and KW
hybrids.

73,

Craig
W3CRR

47017. Re: [TS-520_820_530_830] What's happening?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-15 23:38:02 UTC
From: <wagstw46@...>
Topic: 34493 Message: 47017

Well the reality is the rigs have not been made for many years and even discrete components on the boards are becoming more and more obsolete and often not available.

Sure it would be nice to keep every KW hybrid on the air, but the fact is we need people who make a business of selling boards, VFO, power transformers etc.

I have a complete set of spare boards for my TS-830s and quite a few boards for my TS-820 and TS-520. I rest easier knowing I have these in reserve. I even have some parts harvest boards that I use regularly. Real handy when you cannot buy an IC or a 10 meter Drive coil.

Having these boards and parts allows me to keep my hybrids in factory config and I am not resorting to soldering substitute Mosfets in different packages to the foil side of the boards (seen this more than a time or two with the Mixers) and a host of other mods that I would have to perform if I lived on a deserted island with no ready access to boards and parts.

One thing I do make a point of noticing on Ebay is the back panels of these parted out Hybrids and commonly I see they are 1 million series radios. That softens the blow quite a bit for me as I know people are not for the most part taking perfectly serviceable 6 and 7 million series radios and parting them out to make a buck.

It is kind of like going to the auto salvage yard and buying needed parts from a car that had over 200,000 miles on it. It met and exceeded its design and economic life and is now keeping others like it on the road.

I am sure glad we have a Bob Mansker. He has made it possible for me to keep several customer radios in service without resorting to making it a hybrid in the truest sense of the word.

Just my opinion.

Terry K9TW

47018. Re: [TS-520_820_530_830] Nylon gear collar repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-15 23:58:37 UTC
From: <dfm4290@...>
Topic: 34493 Message: 47018

Is their a print of the gears?
Dale (KD0GES)

47019. Re: [TS-520_820_530_830] Nylon gear collar repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-16 00:00:41 UTC
From: <wagstw46@...>
Topic: 34493 Message: 47019

Johnny:

I have looked at this site as well. Lets keep them in reserve and see how Gregory makes out reverse engineering the upper sprockets.

I didnt call this company as you did as I am not smart enough to give them the specs. I know that the bore is 6mm. I know that the ratio is 10 teeth to 16 teeth. I dont know the pitch. I am assuming all are metric dimensions and perhaps standard at that. I dont know how they spec the ladder chain.

Easiest thing for me to do would be to send them a gear set with chain and see if they can duplicate it. We can do that if Gregory determines he will not be able to economically manufacturer small number of these.

I dont know if they would be receptive to receiving the originals or not?

Appreciate your efforts and may still end up going back to this company.

The upper sprockets are very easy to change out and the ones that are more prone to cracking. The 16 tooth sprocket on the air variables with exception of VC-1 are not easy to change out. Requires RF board removal and unsoldering the capacitors.

Lets give Greg some time to see if he can produce the upper 10 tooth sprocket and if not then I can send gear set, chain, and drive shaft to your contact assuming he is willing to receipt for them and ship back to me.

One thing in back of my mind is how frugal (no cheap) most hams are. Perfect example is those still burnishing Aux and TR relay contacts instead of buying spare NOS relays while they are still available because they wont pop for $25 to $30. I have been down this road before when folks said they were interested and when part was found interest really wasnt there. More fun to use the rubber bands and bubble gum!

Thanks
Terry K9TW

47020. Re: [TS-520_820_530_830] Nylon gear collar repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-16 00:01:59 UTC
From: <wagstw46@...>
Topic: 34493 Message: 47020

NO not that I could find. They are ladder chain sprockets.

Terry K9TW

47021. Re: [TS-520_820_530_830] Nylon gear collar repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-16 00:18:46 UTC
From: Jan Servaites
Topic: 34493 Message: 47021

I hope I can use these to upgrade the o-rings in my T-599. I'm doing a complete re-cap in it now.
Jan N8CBX

ki4wcq52@... wrote:

>
>
> This might be a source for sprockets that will work. Looks like they
> have a lot of possibilities, not sure if they have a direct
> replacement since I did not have specifications for the existing one.
>
> https://sdp-si.com/eStore/Catalog
>
> I called customer service and they said no minimum order, although
> under $50 they would add shipping and handling. The prices seemed to
> be in the $6-$15 range for a few I guessimated might work.
>
> Customer service rep was James at ext 491 (number is on the website)
> and he said he would help you find the right one or a substitute. He
> mentioned that they can also fabricate a special order, but I didn't
> inquire as to the price lacking the specs.
>
> 73
> Johnny KI4WCQ
>
>

47022. RE: [TS-520_820_530_830] What's happening?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-16 00:44:33 UTC
From: fpath fpath
Topic: 34493 Message: 47022

The only issue with board swapping is board upgrades. I had and issue and changed out my IF board with known good board, radio worked perfectly. When through the suspect IF board and couldn't find anything wrong. Terry nearly went crazy after 3 weeks of assisting me, I'm just plain crazy. Anyway, ended up the new board had been upgraded and had a new 9V rail added. I purchased a new IF board complete with filters and checked against upgraded board and suspect board, new board also had new 9v rail.

My 2 cents worth from the hottest city on planet earth, according to UN.

best 73's

Dave

melted VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: stilesjoseph@...
Date: Wed, 15 Jan 2014 13:57:10 -0800
Subject: Re: [TS-520_820_530_830] What's happening?

Craig,

Your observations are keen "grasshopper!" I "surf" ebay all the time and know what your are talking about. So...say you have a 520, 820, 530, 830...that needs an RF board, IF board...or something else??.....what's it worth to you to get it back in working order? I do admit that my diagnostic skills are at time lacking...and ...I'm probably going to get some flack for this...it's easier to ...arrrrgggg....put in a "known working" board/part. The aforementioned practice was the prime motivating factor in me joining this group. My skills still have a long way to go..but I can now fix numerous problems...that prior...I could not. This skill was obtained by the generous help of several "tolerant" group members...and lots of home study.

Anyway...IF your prime motivation is $$$...you can make more $$$ off just a few "prime" pieces...than a whole rig. There is/are several group members out there that sell parts as a business...so PLEASE don't take offense...you are not here/there to destroy these fine rigs to make a few $$, just helping to preserve them. I have purchased some parts off one particular ebay seller...he stated...he makes more $$ off selling parts...than selling a whole WORKING rig! XYL stated..one more rig and I'm gone....gee...I think I'll miss her! hihi

73 Joe
WB7UQU

On Wednesday, January 15, 2014 1:39 PM, Mark Gilger <mgilger@brightdsl.net> wrote:

Craig,I have an extra one that I just picked up. It's a 6 million s/n with a few minor dings to the paint as most have. Email me direct for info.Oh one thing. The TS-940s is not a 12 volt radio. You plug it into 110ac. So you sure your thinking the radio you want is a

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47023. Re: [TS-520_820_530_830] What's happening?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-16 01:01:45 UTC
From: Craig Roberts
Topic: 34493 Message: 47023

Firstly, as I just explained to our friend Mark, I wrote my "What's happening?" post hurriedly when I should have been writing a news story about a really boring congressional hearing I had just covered. I was stalling.

At any rate, I AM looking for a 940 -- but not because it's a 12V radio. I was/am aware that it's a "mains" radio. I want a 940 because it's been recommended to me by a number of folks as a perfect "next step" in my KW acquisition journey. I'll get a little 440S or something along those lines as an emergency or portable rig to run off a 12V storage battery, should the need/desire arise.

As for the parting out of radios -- I certainly understand the arguments in both directions. I for one just fixed a number of problems on my 830 in an expeditious (and non-purist but military) manner by purchasing a "known good" AF board from an eBay vendor and installing it. So, on one hand, I am grateful that the radio breakers are in business and cheer them on. I just note with some concern the increasing scarcity of intact radios.

It's a mixed bag.

73,
Craig
W3CRR

47025. RE: Sprockets

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-16 01:06:55 UTC
From: <james27613@...>
Topic: 47011 Message: 47025

Hi,

I posted about SDP back in 2007 but did not have any issues with the sprockets in my radios way back then.

I did fix a few using 5 min. epoxy and some dental floss.

One coat of epoxy applied with a fine tip artist brush,
then a few turns of the flat unwaxed unflavored dental floss.

Once the epoxy has dried I applied a second coat and no problems.

73 james ke4drn

47026. Re: [TS-520_820_530_830] Nylon gear collar repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-16 01:19:47 UTC
From: <dfm4290@...>
Topic: 34493 Message: 47026

Would anyone have a set of old gears they would be willing to send me to reverse engineer the gear?
A cracked gear would be fine.
I could try to machine up a few proto types to figure out how to make them and see what my brother-in-law would want to make them in his machine shop.
Dale (KD0GES)

47027. Nylon gear collar Project

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-16 01:11:45 UTC
From: Gregory Graham
Topic: 47027 Message: 47027

Lets all take a deep breath and let this project get started and see if it will work or not. The or not is very possible. First with parts supplied by Terry I'll document all of the specifications that I can, short of the tensile strength of the nylon material. That will give us a starting data point. Second together with Terry and we will look at what causes them to fail and weather modifications to a replacement part are feasible, i.e. larger hubs, metal inserts, etc. THEN I'll make a few replacement prototype gear/wheel parts and we'll have a look at, and see if the tolerance, finish, strength, color and design make sense. I'll post the specifications when I have them, then share information about the success of the first few prototype parts. We'll keep you all posted. Let us get our feet on the ground and get a running start and hope we are successful. My initial guess is that if we are successful, cost will be VERY reasonable. For now lets just let the project progress. This is a hobby not a business venture for me.

Gregory
NR6C

47028. Re: [TS-520_820_530_830] Nylon gear collar repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-16 02:16:29 UTC
From: <vk3kvw@...>
Topic: 34493 Message: 47028

How about using the new printing technology.
Michel vk3kvw

From: dfm4290@...
Sent: Thursday, January 16, 2014 1:19 AM
To: TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830] Nylon gear collar repair

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A cracked gear would be fine.

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Dale (KD0GES)

47029. Re: [TS-520_820_530_830] Nylon gear collar repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-16 04:01:16 UTC
From: <ckepus@...>
Topic: 34493 Message: 47029

Since the bad guys are making complete, functional and very deadly "plastic" semi-automatic weapons with 3-D printers (lots of pressures and stress on individual components) seems like copying a sprocket might be a piece of cake. Then it could be tested to determine if it would hold up in the KW application.

Kinda surprised it hasn't been mentioned until Michel's post.

Anyone have one of these critters? I'll check around the Sacramento area. Gotta be a "copy"service by now.

Chris
W7JPG

47030. Re: [TS-520_820_530_830] Nylon gear collar repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-16 01:38:59 UTC
From: Gregory Graham
Topic: 34493 Message: 47030

Lets all take a deep breath and let this project get started and see if it will work or not. The, or not, is very possible. First with parts supplied by Terry I'll document all of the specifications that I can, short of the tensile strength of the nylon material. I'll post the data and anyone that wants to take a stab at making parts is welcome to give it a try. That will give us a starting data point. Second together with Terry, we will look at what causes them to fail and weather modifications to a replacement part are feasible, i.e. larger hubs, metal inserts, etc. THEN I'll make a few replacement prototype gear/wheel parts and we'll have a look at, and see if the tolerance, finish, strength, color and design make sense. I'll post the specifications when I have them, then share information about the success of the first few prototype parts. We'll keep you all posted. Let us get our feet on the ground and get a running start and hope we are successful. My initial guess is that if we are successful, cost will be VERY reasonable. For now lets just let the project progress. This is a hobby not a business venture for me.

Gregory
NR6C
On 1/15/2014 5:19 PM, dfm4290@... wrote:
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>
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> them and see what my brother-in-law would want to make them in his
> machine shop.
>
> Dale (KD0GES)
>
>

47031. Re: [TS-520_820_530_830] What's happening?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-16 03:26:31 UTC
From: Jim W7RY
Topic: 34493 Message: 47031

Agreed!
I have parted out many radios and amplifiers, and purchased many parts
from others that have done it.

73
Jim W7RY

On 1/15/2014 3:38 PM, wagstw46@... wrote:
>
> Well the reality is the rigs have not been made for many years and
> even discrete components on the boards are becoming more and more
> obsolete and often not available.
>
>
> Sure it would be nice to keep every KW hybrid on the air, but the fact
> is we need people who make a business of selling boards, VFO, power
> transformers etc.
>
>
> I have a complete set of spare boards for my TS-830s and quite a few
> boards for my TS-820 and TS-520. I rest easier knowing I have these in
> reserve. I even have some parts harvest boards that I use regularly.
> Real handy when you cannot buy an IC or a 10 meter Drive coil.
>
>
> Having these boards and parts allows me to keep my hybrids in factory
> config and I am not resorting to soldering substitute Mosfets in
> different packages to the foil side of the boards (seen this more
> than a time or two with the Mixers) and a host of other mods that I
> would have to perform if I lived on a deserted island with no ready
> access to boards and parts.
>
>
> One thing I do make a point of noticing on Ebay is the back panels of
> these parted out Hybrids and commonly I see they are 1 million series
> radios. That softens the blow quite a bit for me as I know people are
> not for the most part taking perfectly serviceable 6 and 7 million
> series radios and parting them out to make a buck.
>
>
> It is kind of like going to the auto salvage yard and buying needed
> parts from a car that had over 200,000 miles on it. It met and
> exceeded its design and economic life and is now keeping others like
> it on the road.
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>
> I am sure glad we have a Bob Mansker. He has made it possible for me
> to keep several customer radios in service without resorting to making
> it a hybrid in the truest sense of the word.
>
>
> Just my opinion.
>
>
> Terry K9TW
>
>
>
>

47032. Re: [TS-520_820_530_830] What's happening?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-16 05:10:51 UTC
From: Joseph Stiles
Topic: 34493 Message: 47032

Greetings Group,

I need to clarify: I know Bob-ke5ftf, does a wonderful job...I did not mean to slam him or any other service or parts supplier. I have purchased parts from him on more than a few occasions...thanks Bob. I was making a direct comment about 1 seller on ebay who does take early & late serial numbered 820, 530 & 830's down for parts...also dismantles 430 & 440.

Again...apologies

73 Joe
WB7UQU

On Wednesday, January 15, 2014 9:02 PM, Jim W7RY <jimw7ry@...> wrote:

>Agreed!
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>
>73
>Jim W7RY
>
>
>On 1/15/2014 3:38 PM, wagstw46@... wrote:
>
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>>
>>Just my opinion.
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>>Terry K9TW??
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>

47033. Re: [TS-520_820_530_830] Nylon gear collar Project

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-16 06:10:38 UTC
From: Wes Will
Topic: 47027 Message: 47033

> replacement part are feasible, i.e. larger hubs, metal inserts, etc.
> THEN I'll make a few replacement prototype gear/wheel parts and we'll
> have a look at, and see if the tolerance, finish, strength, color and
> design make sense. I'll post the specifications when I have them, then

Gregory:

Industrial Engineering Bachelor's degree. I can likely help a bit here.

Strength of nylon is a known, I can give you those figures if you really want them, but just about ANY metal better than pewter or pot-metal is going to be stronger than what is in there. Nylon is great stuff when it's the right stuff, but this was an economical decision, not an engineering one, I'm sure.

Even pot-metal is likely to be stronger, frankly. These radios were just not intended to last as long as they have. They used nylon for ease of manufacture, and cost, originally.

"What metal are you most comfortable fabbing?" will be the type of material to use, be it brass, bronze, or 17-7PH Condition A aero stainless steel. Titanium, anyone? (Nice for what it's good for, but a stone BUGGER to machine.)

Forget the 17-7PH, Rockwell 301 would be a hundred-fold overkill in this application. I am of course being facetious, for the humour-impaired on the list, about using aircraft-grade stainless here.

As for finish, a flat 120-150 silicon carbide grit polish would be a bit better than required. These are internal parts, and not seen. Any finish which is not so rough as to wear the chain will suffice. Medium 120-150 grit will be great.

Colour? Who Gives A Rat's Rump???? The base, untreated colour of the material you decide to use will be perfectly acceptable, whatever that is; from goldish to stainless-silver-grey, it will be just dandy.

The design can be a very-near exact duplicate of the original part. I suspect that a slightly-longer center hub, with a little thicker wall, to accommodate the hex-head set screw, would be the only real change that would make much difference.

Make it somewhat thicker where the set screw is located, so as to give it a little more material for the threads to grab; maybe one, possibly two more threads depth than the nylon ones, would be really good. Helps keep the set screw from stripping out and ruining an otherwise good sprocket. (Heavy hands on the old allen wrench are not unknown....)

Terry, Mike, Gordon, Et Alii, please comment here, that IS where the nylon originals are cracking and failing, is it not? If a touch thicker hub in the center where the set-screw is located would help with both rigidity and longevity, or whether the current thickness is sufficient, I am not competent to judge. The "thicker hub" recommendation is off the cuff, from similar problems in conveyor belts in my past, so the advice of the other more experienced list members is needed here, they should chime in about this bit.

I tend to go along with the decisions of the original engineers where they are not likely to have been over-ruled by bean-counting. The use of a plastic sprocket instead of a metal one is an example of something I was taught to be a red-flag indication of accounting getting one over on engineering. Wear parts with a tight tolerance, being made of a plastic, is a textbook example of what happens when they save too many pennies. It's penny-wise but pound-foolish, when you wind up with a design so otherwise-good that it outlasts its design obsolescence projection by a factor of at least two time.

The simple change to a more-rigid, longer-wearing material, with NO other changes in the design of the part is very likely going to provide a sprocket that will last fifty or more years. Possibly closer to 100, since the application is low-speed, low-impact, and not terribly stressful on the individual parts.

Sheer abrasion from the motion of the chain will be the only real deterioration factor here. So it's truly going to be your choice of your favourite metal, a mild polish, and soaking up the adulation of your peers.

Lots of the latter, I should think. This has been needing an answer for a long time now, from the look of the interest the posting has generated.

So, does this answer any of the questions about finish / colour / design?? If you have any other things that you think I might help with or need help, please feel free to contact me off the list, I'd be more than glad to lend a hand. The calculator's all warmed up, and it beats the heck outta my old deci-deci-log 18-inch slipstick anyway. (No guessing where the decimal point goes!!)

And by the way, I envy you the production facility. I'm not even in possession of a Unimat any longer. Have fun storming the castle, OM, and enjoy the sound of the milling machine in production mode. It's a favourite noise of mine, when there is a smooth CNC program running and you know you've cut the therbligs down to near-zero.....

--
Wes Will
N9KDY

47034. Re: [TS-520_820_530_830] Nylon gear collar repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-16 07:03:46 UTC
From: Wes Will
Topic: 34493 Message: 47034

> and stress on individual components) seems like copying a sprocket might
> be a piece of cake. Then it could be tested to determine if it would

The plastic resin used in 3-D printing is not exactly known for its lasting power. It tends to become brittle and sort of fall apart over time. The volatiles out-gas, and that means the plastic fails within a year or two, more often than not.

(As for making firearms with these printers, I would not pull the trigger on one, the likelihood of eating the receiver as it comes apart in my hand would be much too great. The first shot, maybe you get away with it. Second and subsequent? Not on your tin-type. Not even on your Daguerro-type.

The resins used in laser-cured 3-D printing just aren't THAT strong. It's fantastic for one-off prototyping, and within the constraints of the material and methods used to create things the 3-D printing technology is one of the more fantastic things technology has done for us in recent years. But it isn't perfect, and it really just isn't meant for long-term use parts. That's not a slam on the technology, just an admission of reality and the limits of plastic resins.)

--
Wes Will
N9KDY

47035. RE: [TS-520_820_530_830] What's happening?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-16 11:41:53 UTC
From: <wagstw46@...>
Topic: 34493 Message: 47035

Dave:

Very good point. Best to get later serial number boards and latest rev to the schematic and x-ray board views if you cannot exactly match your existing board.

Terry K9TW

47036. Re: [TS-520_820_530_830] What's happening?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-16 11:51:50 UTC
From: <wagstw46@...>
Topic: 34493 Message: 47036

Joe

I didnt take it as a slam on Bob. I dont know if Bob cannabilizes late serial number working rigs or not. I hope not but no way for me to know.

I was just trying to point out the other side of the coin. Without original spare parts there would be a lot of hybrids that would not be repaired or repaired in non-standard configurations.

I hate to see them being parted out, but understand it is necessary evil.

Same thing when people easily give up and sell Hybrid rig for below market price when all it took was simple repair. Hate to see them do that but same as with a car that is nickel/dime-ing you to death. At some point you just sell or trade and get a different model.

Terry K9TW

47037. Re: [TS-520_820_530_830] Nylon gear collar repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-16 12:11:47 UTC
From: <wagstw46@...>
Topic: 34493 Message: 47037

Hey gang as Gregory has requested lets give him a chance here.

At minimum we may end up with a good set of dimensional specs that we do not presently have so that someone might be able to fab new sprockets from metal or some other durable material and as Wes mentions maybe re-design to address root cause of the cracking.

I dont know why they fail. Just looking at them it seems that there is not enough "meat" left on the sides of the hubs after tapping the holes. I have read some theories that say there is entrained moisture in the nylon (and I am guessing it is nylon?) and that it dries out over time in a high heat environment and cracks are induced. I simply do not know.

At this point Gregory knows that there are couple of you with education and machining backgrounds willing to help. Let him decide when or if he wants to avail himself of your help.

Also nothing stopping anyone from a parallel initiative of re-design, machining or finding a supplier. I have given complete sample set to Gregory. When he is finished with these originals he will return to me and I can make them available to others.

I only have one complete set. If someone else has them available and wants to offer up for analysis and measurements etc feel free to do so.

So for now you can proceed with parallel initiatives or stay tuned for progress reports when there is something to report.

Terry K9TW

47038. Re: [TS-520_820_530_830] Nylon gear collar repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-16 12:39:02 UTC
From: <wagstw46@...>
Topic: 34493 Message: 47038

Here is fellow who is fabing nylon collars to press over the sprocket hub and secure in place with super glue. People have used safety wire and wrapped and twisted, nylon Ty-wrap cable ties cinched up, dental floss wrapped coated with adhesive, copper tubing sleeves, machined collars and a host of methods to "fix" the problem. Fix means prevent slippage on the drive shaft.

Our sprockets do not have the brass knurled inserts. Ours are all nylon but gives you an idea of what a sprocket looks like. The crack doesnt show well. It runs across the tapped hole and all the way to the bore of the hub. Sometimes hair line and sometimes spread wide open. There are two tapped holes 120 degrees apart. OD of hub is approx 15 mm and the bore is approx 6 mm. Now you know everything I know about these sprockets.

http://www.kx4om.com/Files/Tempo2020SprocketRepair.pdf

If you want to see more about this Google on Tempo 2020 sprocket repair.

Terry K9TW

47039. Re: [TS-520_820_530_830] Nylon gear collar repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-16 13:41:18 UTC
From: Craig Roberts
Topic: 34493 Message: 47039

So far, the discussion about replication of the nylon sprocket wheels in question has centered around machining.

According to Dupont's literature, "Delrin? acetal homopolymer combines lubricity and wear resistance with the stiffness and strength needed in parts designed to replace metal."

I have used Delrin? rod as element spacers in my aluminum Moxon antenna designs without any apparent deterioration despite exposure to the outside elements for about a decade now.

Could not a mold be made from an original upper spocket wheel and replicas of Delrin (or other suitable thermoplastic) then be fashioned by injection? I would think - though I admit to total ignorance of mechanical engineering -- that this method would be easier and less costly than machining. I'm guessing the OEM Nylon pieces were made by injection molding.

http://www.dupont.com/products-and-services/plastics-polymers-resins/thermoplastics/uses-and-applications/mechanical-gears.html

Oh - I hereby retract all negative comments about the practice of parting out our radios. The arguments in favor of making spare and replacement circuit boards and other components available to renew our radios are persuasive. I stand -- or rather, sit -- corrected, y'all.

73,

Craig
W3CRR

47040. Re: [TS-520_820_530_830] Nylon gear collar repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-16 15:29:17 UTC
From: Dave
Topic: 34493 Message: 47040

Thingiverse.com may be a source of low volume printed gears.
Dave f4eyk

Dave f4eyk

Craig Roberts <crgrbrts@verizon.net> wrote:

>
>
>So far, the discussion about replication of the nylon sprocket wheels in
>question has centered around machining.
>
>According to Dupont's literature, "Delrin® acetal homopolymer combines
>lubricity and wear resistance with the stiffness and strength needed in
>parts designed to replace metal."
>
>I have used Delrin® rod as element spacers in my aluminum Moxon antenna
>designs without any apparent deterioration despite exposure to the
>outside elements for about a decade now.
>
>Could not a mold be made from an original upper spocket wheel and
>replicas of Delrin (or other suitable thermoplastic) then be fashioned
>by injection? I would think - though I admit to total ignorance of
>mechanical engineering -- that this method would be easier and less
>costly than machining. I'm guessing the OEM Nylon pieces were made by
>injection molding.
>
>http://www.dupont.com/products-and-services/plastics-polymers-resins/thermoplastics/uses-
and-applications/mechanical-gears.html
>
>Oh - I hereby retract all negative comments about the practice of
>parting out our radios. The arguments in favor of making spare and
>replacement circuit boards and other components available to renew our
>radios are persuasive. I stand -- or rather, sit -- corrected, y'all.
>
>73,
>
>Craig
>W3CRR
>
>
>
><!-- #ygrp-mkp { border: 1px solid #d8d8d8; font-family: Arial; margin: 10px 0; padding: 0
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#ygrp-mkp .ad a { color: #0000ff; text-decoration: none; } #ygrp-sponsor #ygrp-lc { font-family: Arial; } #ygrp-sponsor #ygrp-lc #hd { margin: 10px 0px; font-weight: 700; font-size: 78%; line-height: 122%; } #ygrp-sponsor #ygrp-lc .ad { margin-bottom: 10px; padding: 0 0; } #actions { font-family: Verdana; font-size: 11px; padding: 10px 0; } #activity { background-color: #e0ecee; float: left; font-family: Verdana; font-size: 10px; padding: 10px; } #activity span { font-weight: 700; } #activity span:first-child { text-transform: uppercase; } #activity span a { color: #5085b6; text-decoration: none; } #activity span span { color: #ff7900; } #activity span .underline { text-decoration: underline; } .attach { clear: both; display: table; font-family: Arial; font-size: 12px; padding: 10px 0; width: 400px; } .attach div a { text-decoration: none; } .attach img { border: none; padding-right: 5px; } .attach label { display: block; margin-bottom: 5px; } .attach label a { text-decoration: none; } blockquote { margin: 0 0 0 4px; } .bold { font-family: Arial; font-size: 13px; font-weight: 700; } .bold a { text-decoration: none; } dd.last p a { font-family: Verdana; font-weight: 700; } dd.last p span { margin-right: 10px; font-family: Verdana; font-weight: 700; } dd.last p span.yshortcuts { margin-right: 0; } div.attach-table div div a { text-decoration: none; } div.attach-table { width: 400px; } div.file-title a, div.file-title a:active, div.file-title a:hover, div.file-title a:visited { text-decoration: none; } div.photo-title a, div.photo-title a:active, div.photo-title a:hover, div.photo-title a:visited { text-decoration: none; } div#ygrp-mlmsg #ygrp-msg p a span.yshortcuts { font-family: Verdana; font-size: 10px; font-weight: normal; } .green { color: #628c2a; } .MsoNormal { margin: 0 0 0 0; } o { font-size: 0; } #photos div { float: left; width: 72px; } #photos div div { border: 1px solid #666666; height: 62px; overflow: hidden; width: 62px; } #photos div label { color: #666666; font-size: 10px; overflow: hidden; text-align: center; white-space: nowrap; width: 64px; } #reco-category { font-size: 77%; } #reco-desc { font-size: 77%; } .replbq { margin: 4px; } #ygrp-actbar div a:first-child { /* border-right: 0px solid #000;*/ margin-right: 2px; padding-right: 5px; } #ygrp-mlmsg { font-size: 13px; font-family: Arial, helvetica,clean, sans-serif; *font-size: small; *font: x-small; } #ygrp-mlmsg table { font-size: inherit; font: 100%; } #ygrp-mlmsg select, input, textarea { font: 99% Arial, Helvetica, clean, sans-serif; } #ygrp-mlmsg pre, code { font:115% monospace; *font-size:100%; } #ygrp-mlmsg * { line-height: 1.22em; } #ygrp-mlmsg #logo { padding-bottom: 10px; } #ygrp-msg p a { font-family: Verdana; } #ygrp-msg p#attach-count span { color: #1E66AE; font-weight: 700; } #ygrp-reco #reco-head { color: #ff7900; font-weight: 700; } #ygrp-reco { margin-bottom: 20px; padding: 0px; } #ygrp-sponsor #ov li a { font-size: 130%; text-decoration: none; } #ygrp-sponsor #ov li { font-size: 77%; list-style-type: square; padding: 6px 0; } #ygrp-sponsor #ov ul { margin: 0; padding: 0 0 0 8px; } #ygrp-text { font-family: Georgia; } #ygrp-text p { margin: 0 0 1em 0; } #ygrp-text tt { font-size: 120%; } #ygrp-vital ul li:last-child { border-right: none !important; } -->

47041. Re: [TS-520_820_530_830] Nylon gear collar repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-16 15:30:24 UTC
From: <wagstw46@...>
Topic: 34493 Message: 47041

I am the one using the term "machining". I did not mean there are not other processes. Perhaps I should have said fabricate?

I mean it in a generic sense and not a precise technical process. I am not conversant with the best manufacturing process. So disregard when I say machining a new part. I am an electrical and electronic guy and only been exposed to mechanical world thru many years in electric power production.

Same as if I said it should be "welded". That would be my generic term for SMAW, or TIG, or MIG, or Centrifugal, or Brazed or Heliarc or ??? Just as I am not a machinist or mill wright or machine builder I am not a welder.

I dont care if they are Injection Molded, CNC machined, Casting, 3D printer, flame cut, forged, laser cut, or what the manufacturing process is.

Gregory's first goal is to precisely replicate the dimensional attributes and then he will look at improving upon the design by selecting better material properties and sizing. I dont know if he will end up with Delrin, ABS, Nylon 6-6, Fiberglass, Urethane/Epoxy Resin or what kind of "plastic" (again generic term plastic as opposed to metal). Frankly I dont really care.

Sorry for confusion. Only machining I have pursued in the past was the fabrication of press on metal collars. A lathe and drill press was involved.

No more mention of "machining" from me.

Terry K9TW

47042. Re: [TS-520_820_530_830] Nylon gear collar repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-16 16:06:38 UTC
From: Craig Roberts
Topic: 34493 Message: 47042

Hey, Terry -- we forgot the "hand carved" or whittling option :-)

All the best,

Craig
W3CRR

47043. 530 9V reg problem

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-16 18:36:02 UTC
From: Jan Servaites
Topic: 47043 Message: 47043

I have 9V regulator problem in my TS530.
I'm getting:
2.7V at TP6 (test point to measure the 9V);
18.6V at the 14V wire
12.2V at the "12" pin
And on the rectifier board, I get 15.8VAC at the 14AC wires.
What typically goes bad on the 9V regulator circuit?
Thanks,
Jan N8CBX

47044. Re: [TS-520_820_530_830] Nylon gear collar repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-16 11:59:42 UTC
From: Thomas Bewick
Topic: 34493 Message: 47044

Terry,
Sorry I did not respond sooner, I was working the last couple nights, 12 hour shifts. But I did want to thank you for your kind and thoughtful reply and let you know I was not at all feeling dissed, quite the contrary. I joined the group mainly to learn since this is my first hybrid and I am still on a steep learning curve. I have no problem with being wrong about something and being corrected. I had happened to be on Ken's website buying the dummy load kit and saw the brass retainers and then without going back to his site and seeing the thread responded off the cuff, a little too fast, before I completely understood the conversation or what it was I saw on Ken's website.

Craig, your radios sound great, that is really something getting the original brochure in such nice condition. Very interesting about the military forces of other nations at that time and on the brochure printed in the US actually showing that! Also amazing to think how the US came together under those circumstances and put up such a national effort to win the war at that time in light of it.

The story of my Radiola 20 is I saw a youtube video by "AllAmericanFiveRadio" on that radio a few years back, and I loved it, so I did a little research and decided I really wanted one, and use it to learn about radio restoration. I was fortunate to find one on eBay that was right near me in Albany NY (I am 22 miles south east of Albany) and came from a collector here and was well taken care of. The neat thing about it is it still has the pencil marked station indicators on the dial, and someone wrote "WGY" on it which is here in Schenectady NY and was one of the first big AM station in the country since 1922, so the radio was always local to this area, and will stay here. I have only repaired a stuck rheostat and hunted down a missing escutcheon so far, I still need to replace the couple old caps in it and build a battery eliminator for it. I have first been working on a couple cheaper AA5 radios to learn more before I work more on the Radiola because I really want to gain more experience and do a good job on it. Anyway, that is also the mindset that lead me to put together a TS-520 station. I love the older radios, and Kenwoods especially, and figure this is something I can learn to work on myself too.

73, Tom , K2BEW

On Tue, Jan 14, 2014 at 7:34 AM, <wagstw46@...> wrote:

>
>
> Tom:
>
>

> No problem your heart was in right place. Lots of folks want to jump in
> and help, but always best to go to the rig specific documentation and look
> at it first. Only takes a few seconds. Some pull the trigger without
> looking at the schematic or service manual. If a person doesnt own a
> TS-530/830 and has never seen the covers off kind of silly to be providing
> counsel.
>
>
> It is one thing to make a mistake as we all do being human, but to offer
> advice when have no knowledge or experience helps no one. Always a
> challenge for new folks to sort out the BS from the good. Fortunately
> enough of us on here to keep each other straight. Just cant be too
> sensitive and think when corrected you are being dissed. Not saying you did
> that, but it is commonly done. We are social beast and some just feel
> compelled to join the fray. Maybe just need the recognition and group
> acceptance? With time you will earn the group respect by the quality of
> the counsel you provide.
>
>
> Lots of no value KW hybrid advice on the various forums that I read. Some
> favorites:
>
>
> 1. I owned a TS520 30 years ago and here is how I remember it working or
> how I fixed it. I think the guy has slept since then and did he really
> ever have the covers off and would a brand new rig exhibit same operational
> problem as a 30 year old one? Pretty useless counsel.
>
>
> 2. I dont own a KW hybrid but my Yaesu FT-101 had same problem and this is
> how I fixed it. Even more Useless!
>
>
> 3. Why are you talking about ALC when loading the rig? Dont you mean Grid
> Current? What is the grid current reading? This person thinks we are
> loading an old Class C 6146 CW transmitter. No clue how RF drive level is
> peaked and indicated on a KW hybrid.
>
>
> Many more examples but I see the above quite a bit.
>
>
> As men we all know all there is about gas lawn more engine that wont
> start. Doe not matter what make or model we all jump in and share bits of
> wisdom. We know it from birth! Check the spark, does it have gas, is it
> flooded, did you choke it, did you prime it, has flywheel key shifted when
> the blade hit that rock and on and on. Now same 1/2 horse power electric
> motor wont start and there will be silence! Electricity and electronics
> shifts things to black magic!
>

>
> So glad you got a TS520 and joined this group. Looked at your QRZ page and
> made me smile as it brought back memories of me and my Dad and my first
> crystal set!
>
>
> 73s Terry
>
> K9TW
>
> ._,_.___
> Welcome to the group. Tom.
>
> Love the Radiola! I'm also an antique broadcast set collector/restorer.
> The earliest one I have at present is a three dial 1924 Silvertone
> Neutrodyne (made by King). In the living room is another Sears Silvertone
> offering: an AM/SW console from 1938. It came with a bonus in mint
> condition: a brochure and world map, provided by Sears with the radio,
> promoting shortwave broadcast listening as a way of keeping up with world
> events. The map and statistical annotation depicts the military strength of
> major nations. At the time, the U.S. Army and Navy were dwarfed by the
> forces in Japan, Germany and even Italy (as we were soon to learn to our
> detriment).
>
> Fascinating stuff! Oh - and thank you for passing along the legacy to
> your son.
>
> 73,
>
> Craig
> W3CRR
>
>
>

47045. Re: [TS-520_820_530_830] Low power output in tune mode TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-16 21:36:33 UTC
From: <dfm4290@...>
Topic: 46745 Message: 47045

I'm finally getting back to working on the radio.
I now have resistor on a wire to discharge the stored power in the radio.
Now I have a new problem.
I replaced the two 56k resistors one had infinite resistance.
Now after replacing them all that happens when I turn the radio on is the fan and meter lights com on.
Is their any thing that would be obvious to look for?
Thanks
Dale (KD0GES)

47046. Re: What's happening

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-16 22:17:46 UTC
From: John Holden
Topic: 47046 Message: 47046

There are times when you NEED those rare/unusual/Unobtanium parts.. If you are on Facebook you can see a more extreme use of "recycling".

https://www.facebook.com/groups/509823135740814/http://

John/N7IQV

47047. Re: Nylon gear collar repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-16 22:32:51 UTC
From: John Holden
Topic: 34493 Message: 47047

For years, my local Police Department dealt with broken gear teeth on the rotating lights inside their "Code 3" brand lightbars. They came up with a different type of plastic (dark gray/black) that remains intact, even with years of use and heavy UV exposure. They might be able to provide some background on the material used in later issues of the MX7000 lightbar. If that plastic is available for machining the sprockets on the KWs...it could prove to be a long-term winner. If those trying to re-invent the wheel here wants to give Code3PSE a call, their number is (314) 426-2700 in St Louis MO. Online at http://www.code3pse.com/Code3/contact_us

John/N7IQV

47048. RE: 530 9V reg problem

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-16 23:24:44 UTC
From: <wagstw46@...>
Topic: 47043 Message: 47048

Hi Jan:

What the heck does this have to do with 1500watt tetrode amps??

One thing to remember is that the "voltages" noted on the Rect Board transformer secondary windings are not voltages, but labels or designators for the particular dc supply. Having 18.6vdc at 14A on the AF board is normal. You are looking at the output of a full wave bridge rectifier with capacitor filter. The secondary winding labeled 14 is not 14 VAC. It is closer to 15.5vac to 16.0vac as you have measured.

800 is not 800vac secondary voltage. It is approx 340 to 345 vac as the nominal "800 vdc anode supply" is a voltage doubler. These transformer secondary schematic labels cause a lot of confusion.

Of course 12.2 at output of the first linear series pass regulator at TP-6 is good. That 12vdc is then the supply for the 2nd linear series pass regulator.

With 2.7vdc at TP-6 I would first try cleaning and adjusting Voltage Sampler trim pot VR-2. If that doesnt help then measure the voltage at the cathode of Reference Zener D14. Should be 5.1vdc to 6.1vdc.

Terry K9TW

47049. Re: [TS-520_820_530_830] RE: 530 9V reg problem

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-16 23:52:53 UTC
From: Jan Servaites
Topic: 47043 Message: 47049

Terry,
What does it have to do with 1500 Watt tetrode amps.....? Absolutely nothing (LOL), but I digress.
I pulled the board out of the 530 and have it on the bench. I'm powering up the "AF" board (X49-1150-00) at 14A/G14 with about 19.8VDC and checking the following:
12.3V regulator (at "12");
9V reg (TP6);
3.2V reg (pin5, plug10), using my meter ground at the aluminum heatsink (GND for regulator tests).
I'm not getting any regulation at all. So, I'm looking at the shunt regulator (PNP) transistors (2SA473).
I crossed the 2SA473 to a NTE152/153, so I might replace them and retest.
Do this sound okay so far, Terry?
Jan

wagstw46@... wrote:

>
>
> Hi Jan:
>
>
> What the heck does this have to do with 1500watt tetrode amps??
>
>
> One thing to remember is that the "voltages" noted on the Rect Board
> transformer secondary windings are not voltages, but labels or
> designators for the particular dc supply. Having 18.6vdc at 14A on the
> AF board is normal. You are looking at the output of a full wave
> bridge rectifier with capacitor filter. The secondary winding labeled
> 14 is not 14 VAC. It is closer to 15.5vac to 16.0vac as you have
> measured.
>
>
> 800 is not 800vac secondary voltage. It is approx 340 to 345 vac as
> the nominal "800 vdc anode supply" is a voltage doubler. These
> transformer secondary schematic labels cause a lot of confusion.
>
>
> Of course 12.2 at output of the first linear series pass regulator at
> TP-6 is good. That 12vdc is then the supply for the 2nd linear series
> pass regulator.
>
>

> With 2.7vdc at TP-6 I would first try cleaning and adjusting Voltage
> Sampler trim pot VR-2. If that doesnt help then measure the voltage at
> the cathode of Reference Zener D14. Should be 5.1vdc to 6.1vdc.
>
>
> Terry K9TW
>
>
>
>

47050. RE: 530 9V reg problem

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-17 00:51:50 UTC
From: <wagstw46@...>
Topic: 47043 Message: 47050

I had a typo. You dont want 12.6vdc at TP-6. You want 12 vdc output at 12vdc terminal post. You want 9vdc at TP-6.

Terry K9TW

47051. Re: [TS-520_820_530_830] RE: 530 9V reg problem

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-17 00:54:57 UTC
From: <wagstw46@...>
Topic: 47043 Message: 47051

Jan:

19,8vdc input is a little high and I know it shows that on the schematic, but you dont need that much. 18vdc is plenty.

What load are you using to see if it is regulating?

Need to place dummy load resistors on TP-6 to ground and monitor the 9vdc to see if it holds with varying load current. I would place 50 ohm resistor and then a 100 ohm resistor and see what the 9vdc does with each load.

9/50 = 180 ma of load and 9/100 = 90ma load. Dont leave 50 ohms on too long.

Perhaps you had loose board mounting screws and poor ground?

Terry K9TW

47052. Re: [TS-520_820_530_830] RE: 530 9V reg problem

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-17 02:17:27 UTC
From: Jan Servaites
Topic: 47043 Message: 47052

Terry,
Load- I'm just using the AF circuits on the board as a load. It seems
the 12V regulator isn't working at all, so I'm trouble shooting it
Shunt transistors - I pulled them both and they tested ok w/multi-meter.
Zener D15 - Pulled and tested ok; Its a 0.7v zener?
Going to pull the signal transistors in that 12v reg circuit and test
them next.

Terry,
Could a 7812 linear regulator replace the whole 12v shunt regulator
circuit? That would be great if possible.
If so, then replace the 9V circuit too with a 7809?
I remember someone said they have done that. I'll check my emails.
Jan

wagstw46@... wrote:

>
>
> Jan:
>
>
> 19,8vdc input is a little high and I know it shows that on the
> schematic, but you dont need that much. 18vdc is plenty.
>
>
> What load are you using to see if it is regulating?
>
>
> Need to place dummy load resistors on TP-6 to ground and monitor the
> 9vdc to see if it holds with varying load current. I would place 50
> ohm resistor and then a 100 ohm resistor and see what the 9vdc does
> with each load.
>
>
> 9/50 = 180 ma of load and 9/100 = 90ma load. Dont leave 50 ohms on
> too long.
>
>
> Perhaps you had loose board mounting screws and poor ground?
>
>
> Terry K9TW
>
>
>

>

47053. Re: [TS-520_820_530_830] RE: 530 9V reg problem

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-17 11:26:37 UTC
From: <wagstw46@...>
Topic: 47043 Message: 47053

Yes certainly can replace both regulated supplies with 3 terminal devices if you dont care about returning rig to original config. There is nothing wrong with this very mature regulator design. Of course your rig and free to modify as you see fit. I am confused about your trouble shooting efforts.

I would not just use the load on the AF board to test the 9vdc or 12vdc regulated outputs. Need a varying load and monitor the regulated voltage as you vary the load on each bus.

I dont understand why you say the 12 vdc isnt regulating. What are you doing to see that the voltage is varying under load? Are you saying with 18vdc applied to Emitter of Q26 the 12vdc is varying as it sits there. .Did you scope it and look at ripple? Should be none.

No reason to pull zeners and series pass devices until have determined thru troubleshooting that they are defective.

Terry K9TW

47054. RE: [TS-520_820_530_830] RE: 530 9V reg problem

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-17 12:03:39 UTC
From: fpath fpath
Topic: 47043 Message: 47054

Terry/Jan,

The very early serial numbers of the 530s has known issues with tracks cracking and lifting foils tracks, especially on the 9V rail, more so than normal. Must have been a bad batch run, as this was an issue straight out of the factory.

Were the input voltages to the AF board correct?

Have a close look at the foil side of connector 8 and 9, these 2 connectors have created many issues in the past. Need to use good lighting and magnification.

73s

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: wagstw46@...
Date: Fri, 17 Jan 2014 03:26:37 -0800
Subject: Re: [TS-520_820_530_830] RE: 530 9V reg problem

Yes certainly can replace both regulated supplies with 3 terminal devices if you dont care about returning rig to original config. There is nothing wrong with this very mature regulator design. Of course your rig and free to modify as you see fit. I am confused about your trouble shooting efforts.

I would not just use the load on the AF board to test the 9vdc or 12vdc regulated outputs. Need a varying load and monitor the regulated voltage as you vary the load on each bus.

I dont understand why you say the 12 vdc isnt regulating. What are you doing to see that the voltage is varying under load? Are you saying with 18vdc applied to Emitter of Q26 the 12vdc is varying as it sits there. .Did you scope it and look at ripple? Should be none.

No reason to pull zeners and series pass devices until have determined thru troubleshooting that they are defective.

Terry K9TW

47055. RE: [TS-520_820_530_830] RE: 530 9V reg problem

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-17 14:43:40 UTC
From: <wagstw46@...>
Topic: 47043 Message: 47055

Should be able to find that defect via classic troubleshooting before removing boards and pulling components.

All you need is a voltmeter and variable loads. Hardest part is access to some of the EBC leads if it goes that far.

Terry K9TW

47056. Re: [TS-520_820_530_830] Nylon gear collar repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-17 15:32:36 UTC
From: Mark Gilger
Topic: 34493 Message: 47056

Several years ago I repaired my sprocket in
several of my hybrids using the following posted procedure.

With all the talk lately about this subject I
figured it was time to check and see how my
repairs were holding up. I removed both radio's
from service and removed the covers and found all
were as I left them several years back. The
repair was super cheap and simple, and seem to be holding up well.

http://wb4hfn.com/KENWOOD/Articles/024_Technical_Exchange.pdf

http://wb4hfn.com/KENWOOD/KenwoodHomePage.htm

Regards,
Mark, WB0IQK

At 02:16 PM 1/13/2014, Craig Roberts wrote:
>
>
>Oh, yes. The solutions offered by Peter, KC2RBX, and the anonymous
>source of the copper tubing idea are terrific.
>
>For me, the copper tubing sleeving method is the way to go. Thanks
>again, Joe, for the reference.
>
>If Peter's QRZ.com photos are any indication, he is a dual KW hybrid and
>Drake fan. It appears that there are quite a few of us KW/Drake
>aficionados. In fact, several of the same personalities check into the
>weekend Drake Technical and Kenwood Hybrid nets. I can understand brand
>loyalties to the American manufacturers, but the mix of Kenwood hybrid
>(and maybe Yaesu?) fans among the loyalists is interesting.
>
>I am among them. I used to work for Heathkit and have counted Collins,
>Ten Tec, Drake, Swan and even the esoteric Patcomm as among my favored
>radios as well. As I mentioned before, I had not owned any Japanese HF
>rigs until I acquired my first 530S last year and became a convert.
>Maybe that's more common than I would have thought.
>
>Hmmm.
>
>73,
>
>Craig
>W3CRR
>

47057. Re: [TS-520_820_530_830] RE: 530 9V reg problem

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-17 18:02:39 UTC
From: Jan Servaites
Topic: 47043 Message: 47057

"Yes certainly can replace both regulated supplies with 3 terminal devices if you dont care about returning rig to original config..."
Terry,
If I can replace about 27 discrete components with just 2ea 78xx regulators and about 4 bypass caps, I would think that's an intelligent engineering decision. With a 30 year old radio, I not concerned about the insides, I want the radio to work well so I can use it.
Jan N8CBX

47058. Re: [TS-520_820_530_830] RE: 530 9V reg problem

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-17 18:17:08 UTC
From: Jan Servaites
Topic: 47043 Message: 47058

Dave,
The PCB traces look excellent, no cracks. The input voltages (14A/G14) are good. The 12V is pulled down to about 4-5V for some reason and that affects all the other (9V & 3.2V) voltages. A single point failure design. The 820 is not like this, and I never had any regulator problems with the 820, other than the dirty/oxidized 9V reg. pot.
Jan

fpath fpath wrote:

>
>
> Terry/Jan,
>
> The very early serial numbers of the 530s has known issues with tracks
> cracking and lifting foils tracks, especially on the 9V rail, more so
> than normal. Must have been a bad batch run, as this was an issue
> straight out of the factory.
>
> Were the input voltages to the AF board correct?
>
> Have a close look at the foil side of connector 8 and 9, these 2
> connectors have created many issues in the past. Need to use good
> lighting and magnification.
>
> 73s
> Dave
> VK5PDL
>
>
>

47059. Re: [TS-520_820_530_830] RE: 530 9V reg problem

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-17 18:17:21 UTC
From: Gordon JC Pearce
Topic: 47043 Message: 47059

On Fri, Jan 17, 2014 at 01:02:39PM -0500, Jan Servaites wrote:
> "Yes certainly can replace both regulated supplies with 3 terminal
> devices if you dont care about returning rig to original config..."
> Terry,
> If I can replace about 27 discrete components with just 2ea 78xx
> regulators and about 4 bypass caps, I would think that's an intelligent
> engineering decision. With a 30 year old radio, I not concerned about
> the insides, I want the radio to work well so I can use it.
> Jan N8CBX
>

And no doubt improve the performance too! Lovely stable power supplies, which will help things no end.

I have old radios, I have old synthesizers and I have old cars. I like to keep things as original as I can, at least as far as the character of the machine is concerned. If a repair involves upgrading something to a modern component that will improve other aspects, then yay, great. I'm not about to spend months tracking down 1970s asbestos brake pads for the Citro?n when I can buy nice modern composite ones for pennies in any high-street auto parts shop.

--
Gordonjcp MM0YEQ

47060. Re: [TS-520_820_530_830] RE: 530 9V reg problem

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-18 00:10:24 UTC
From: <wagstw46@...>
Topic: 47043 Message: 47060

Your radio and free to modify anyway you chose. It is the essence of the hobby for some folks. Done my share of mods over the years.

Since I repair these radios for paying customers I often have to spend my time in discovery and removing ill conceived and poorly executed mods.

Because I do perform repair and alignment for paying customers I had to learn how the circuits work and how to troubleshoot to the component level. That is the kind of help I try to dispense on this forum. It is my idea of fun. Helps stave off old timers disease and forces me to keep learning.

If these KW hybrid radios are used for the designed modes of operation they can still hold there own quite well today. Especially true of the TS-830.

As long as parts are still available I intend to keep my two TS-830 full filtered daily drivers as designed and built. Just my approach to life.

Lots of other mods you can undertake:
1. Replace the old fashioned ring diode balanced modulator and product detector with MC1496.
2. Replace that 1st Rx Mixer with a NE602 or 74HC4066
3. Replace that 12BY7A Driver stage with a couple of toroid transformers and a 2SC1971 or similar.
4. Replace that obsolete Ant relay with Pin Diode electronic TR switching.
5. Add a mosfet shunt regulator to the finals screen grid supply.

Just a few for starters.

When you came and asked for help I had no idea "replace with 3 terminal regulator" was an acceptable response.

Terry K9TW

47061. Re: [TS-520_820_530_830] RE: 530 9V reg problem

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-18 00:35:45 UTC
From: <wagstw46@...>
Topic: 47043 Message: 47061

I think people are confused about why we have Linear Series Pass regulator supplies (Not Shunt Regulators). Yes a regulated supply can address variations in the input supply voltage, but that is not primary reason why we have regulated 12vdc and 9vdc power supplies. We have two very different load conditions presented by a transceiver.

To say you are using the load on the AF board to test the regulator misses the point. Those power supplies see two differing loads in operation. You are more concerned about testing if they can hold voltage constant under varying load than you are variations in the input voltage (AC mains). There is a load current in RX ,mode and a different load current in TX mode. If you are testing the power supply with a fixed load you have no idea if it can regulate.

This is why I suggested using two values of dummy load resistors.

I think best if you do install 3 terminal regulators.

Terry K9TW

47062. RE: [TS-520_820_530_830] RE: 530 9V reg problem

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-18 08:45:43 UTC
From: fpath fpath
Topic: 47043 Message: 47062

Sorry, was under the impression the board was out of the radio. Needle point insulated grabbing probe is usually good, thats how I did my IF board for ECB measurements.

73s

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: wagstw46@...
Date: Fri, 17 Jan 2014 06:43:40 -0800
Subject: RE: [TS-520_820_530_830] RE: 530 9V reg problem

Should be able to find that defect via classic troubleshooting before removing boards and pulling components.

All you need is a voltmeter and variable loads. Hardest part is access to some of the EBC leads if it goes that far.

Terry K9TW

47063. RE: [TS-520_820_530_830] RE: 530 9V reg problem

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-18 14:31:50 UTC
From: <wagstw46@...>
Topic: 47043 Message: 47063

Dave:

No reason to be sorry. You may in fact be correct board may have been pulled prior to troubleshooting or to provide access to foil side for easier EBC voltage measurements. Some folks get impatient and are very quick to start pulling components.

I have a SMT test probe lead for my DMM that has a very thin needle point. I also commonly use corsage or floral arrangement pins that can get at craft/hobby stores. These can be had in 2 to 3 inch lengths. I slip insulation over all but small gap at top and at the pin point. I connect via mini-grabber test lead to top of the pin to what ever test meter I am using. I like these as they have either a tear drop or pearl drop plastic ball at the top for grasping. Often can just stick these in the same top side hole as the EBC lead and they will stay there while you take the reading.

Jan is comparing apples and oranges somewhat with his TS820. The 820 has no regulated 12vdc supply and if its 9vdc regulator on the AF-AVR board goes bad it will greatly affect his 3.2 vdc RF-1 voltage just as it does on the 530/830 regulated supplies. The TS820 uses a trick to allow them to use a cheaper and lower dissipation pass device and that is a 68 ohm shunt bypass resistor around the pass transistor. This was common circuit in the old console TV power supplies. The TS820 AVR board is not immune from losing reference zener or series pass transistor. Replaced a few over the years.

It appears he measured D15 zener using the diode test function of his DMM. It is not a 0.7vdc zener. He is looking at barrier voltage. It is a 9vdc zener. In circuit should measure close to 3.2vdc at base of Q23 and approx 9vdc across R77 zener bias current resistor.

Dave it appears he is moving on to LM-317 or similar modification. His choice, but kind of sad as appears he asked for help and didnt let the ink dry before he started pulling components. Not something one would do unless troubleshooting indicates the need or you have exhausted troubleshooting.

One other thing you can help him with in the event his 3 terminal mod doesnt work out for him. I would measure the resistance to chassis ground of the 12vdc output and the 9vdc output. I dont have good notes but based on TS-830 I would expect something on order of approx 40 to 50 ohms for 12vdc and 80 to 100 ohms for the 9vdc load. If significantly lower resistance could indicate a fault on either bus and account for low output voltage. I typically test all these AVRs by loading with a 50 ohm dummy load resistor. Shouldnt see much more than approx 10 mv voltage drop.

Always need to determine if it is regulator fault or a load problem.

I frankly have never heard of the foil trace problems on the TS-530 that you mentioned.

With your 530 experience I need to move on and try to help others.

73s

Terry K9TW

47064. RE: Output dropping above 28,2 Mhz

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-18 17:12:49 UTC
From: <sm7fyw@...>
Topic: 46768 Message: 47064

Well friends, today I had time to do the alignment of the coil package, as suggested. Although I followed instructions, it didn't change the 28,000- 28,500 and the 28,500- 29,100 Mhz low output, when tuning VFO above around 200..... both the band segments react the same way....
When only receiving, it works perfect.
What puzzles me though, is that if I try to tune say fx 28,500 on the first band segment, next to nothing, but, if I change band segment, I have full output, after tuning..... on same frequens....
What is wrong with this rig?

47065. FOR SALE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-18 18:34:17 UTC
From: Mark Gilger
Topic: 34493 Message: 47065

Terry,
Did you sell the IRCI news letters yet?

Mark

47066. RE: Output dropping above 28,2 Mhz

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-18 23:02:49 UTC
From: <wagstw46@...>
Topic: 46768 Message: 47066

Lars:

1. Are you saying that below 200 on the VFO dial that your 10 meters output power is good (80 to 90 watts output into dummy load at 200ma Ip) and above 200 on the VFO the output falls off?

2. Are you saying this only happens on these two bandswitch positions and all others bands are normal?

3. Do you have an RF probe and VTVM?

4. Did you adjust the Het Osc coils by measuring RF voltage at TP-3 on the RF board or just by ear?

Terry K9TW

47067. RE: FOR SALE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-18 23:03:58 UTC
From: <wagstw46@...>
Topic: 34493 Message: 47067

Mark

They are gone.

Terry

47068. TS-820, No Transmit with TUNE or CW ..

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-18 13:42:25 UTC
From: <famtech@...>
Topic: 47068 Message: 47068

My TS-820 works fine on USB/LSB but not on "CW" or "TUNE". Say on 40-meters and when placed in transmit, there is no output when the carrier control is advanced and the display reverts to 9000.0 instead of the correct frequency. Receive works fine in all modes. YG-88C is installed and the connector at IF-2 is in the correct position. The relays are fine and their function are OK. Any thoughts ??

Regards,

Jim L.
WB6KVD

47069. TS-820S Carrier Unit Adjustment

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-19 03:13:16 UTC
From: Byron
Topic: 47069 Message: 47069

Hello-I am going through a TS-820S and I have never had to adjust the trimmers in the carrier unit in the few I have aligned, but on this one I feel I need to. This radio has the CW filter and when I tune to get a beat note the signal is just about out of filter passband. LSB and USB operation appear OK to me based on the overall tone and sound. When I receive a carrier in either LSB or USB, and tune it for maximum S-Meter reading, I get a beat note of around 700-800 cycles. When I switch to CW from either of these modes, there is only a slightly discernible beat note, with much less signal strength. If I tune the carrier for maximum strength in CW mode (nearly as high a reading as in LSB or USB)there is a very low pitched beat note that is barely discernible. If I tune for a normal beat note the signal strength is extremely low, just about out of filter passband. I have tried to make sense of the alignment instructions for the Carrier Unit but I am lost on what to do there. Thanks for any help, Byron WA5THJ

47070. TS-820, No transmit on CW or TUNE ..

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-18 20:25:45 UTC
From: <famtech@...>
Topic: 47070 Message: 47070

My TS-820 works fine on USB/LSB but not on "CW" or "TUNE". Say while 40-meters and when placed in transmit and "Tune" or "CW", there is no output when the carrier control is advanced and the display reverts to 9000.0 instead of showing the correct frequency. Receive works fine in all modes with the display showing the frequency. The YC-88C CW filter is installed and the connector to IF-2 is in the correct position. The relays are fine and their function are OK. On the 10-meter bands receive, the display's readout shows 25 Mhz and jumps around. Measured voltages seem correct. Any thoughts ??

Regards,

Jim L.
WB6KVD

47071. Re: [TS-520_820_530_830] TS-820, No transmit on CW or TUNE ..

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-19 06:11:49 UTC
From: Ron
Topic: 47070 Message: 47071

Sounds like loose connection

Ron KK4PWF

On Jan 18, 2014, at 3:25 PM, <famtech@...> wrote:

>
>
> My TS-820 works fine on USB/LSB but not on "CW" or "TUNE". Say while 40-meters and when placed in transmit and "Tune" or "CW", there is no output when the carrier control is advanced and the display reverts to 9000.0 instead of showing the correct frequency. Receive works fine in all modes with the display showing the frequency. The YC-88C CW filter is installed and the connector to IF-2 is in the correct position. The relays are fine and their function are OK. On the 10-meter bands receive, the display's readout shows 25 Mhz and jumps around. Measured voltages seem correct. Any thoughts ??
>
> Regards,
>
> Jim L.
> WB6KVD
>
>
>

47072. Re: [TS-520_820_530_830] TS-820, No transmit on CW or TUNE ..

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-19 06:54:14 UTC
From: Wes Will
Topic: 47070 Message: 47072

On 01/19/2014 12:11 AM, Ron wrote:
>
>
> Sounds like loose connection
>
> Ron KK4PWF
>
> On Jan 18, 2014, at 3:25 PM, <famtech@...
> <mailto:famtech@...>> wrote:
>
>> My TS-820 works fine on USB/LSB but not on "CW" or "TUNE". Say while
>> 40-meters and when placed in transmit and "Tune" or "CW", there is no
>> output when the carrier control is advanced and the display reverts to
>> 9000.0 instead of showing the correct frequency. Receive works fine in

Please someone correct me if I'm wrong, but the "9.00" (or 19,000 or 29.000 on other bands) symptom says that the CARRIER signal to the PLL is not there, does it not? Bet FSK is out, too.

If there is no CARRIER TWO there will be no CW or FSK transmission. CARRIER ONE does CW and FSK reception, and USB/LSB TX and RX both.

So making sure the Carrier One and Carrier Two boards have the proper voltages as shown on the Service Manual charts, pages 42 and 43 in the paper book, pages 45 and 46 of the PDF file I have here, show the required voltages at the test points on the carrier outputs to the ring modulator and the PLL circuits. I'd start there.

Now.please, someone tell him where to REALLY look, since this is my guess and I don't even have an 820, and tell me where I'm full of stinky brown stuff and need to go back to look at some obvious thing I missed. This is my guess, and where (absent any better advice) I would start looking for a fault, in the carrier oscillators.

Jim, wait for the advice from someone who knows what he's doing. This is for me to embarrass myself and learn something. Sorry to get in the way of fixing your rig.

(Thought Jim, you might look at the troubleshooting chart in the service manual, though. It lists that 9.0000 MHz reading on CW in one of the symptoms, straight up. I went from there to the functional descriptions and the block diagrams of the circuits, and traced what signals were needed, and where they would be --different-- for sideband versus CW. The carrier boards popped right up.)

If you don't HAVE the service manual, I highly recommend spending the time and bandwidth for the download. I got them tonight after seeing

your post and thinking it would be a good thing to work on troubleshooting skills, and so went to the N6WK.com/kenwood/ download site and got them there. (There are other places as well, find one you like if that one doesn't suit your tastes.)

Good luck, OM. And please somebody give Jim some GOOD advice and help now that I've stuck in my oar?

--
Wes Will
N9KDY

47073. RE: [TS-520_820_530_830] RE: 530 9V reg problem

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-19 07:15:36 UTC
From: fpath fpath
Topic: 47043 Message: 47073

Terry,

The foil trace problem was in the very early generation AF boards. Somewhere in the vicinity of around 200 boards (production issue??), have seen a couple here over the years, its almost as if the foils fell off after a few hours use. Some of the problems I have rectified is due to poor soldering techniques of jumper wires done by some who have attempted repairs.

Will be a shame if the board is modified, but that is the owners choice. I can see new faults being introduced, albeit that I haven't put too much thought into the modification. Will do some measurements later just for the note book

Hope your snow is melting and your not getting flooded. Our heat wave has passed for the mean time, but still have bushfires going.

73s

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: wagstw46@...
Date: Sat, 18 Jan 2014 06:31:50 -0800
Subject: RE: [TS-520_820_530_830] RE: 530 9V reg problem

Dave:

No reason to be sorry. You may in fact be correct board may have been pulled prior to troubleshooting or to provide access to foil side for easier EBC voltage measurements. Some folks get impatient and are very quick to start pulling components.

I have a SMT test probe lead for my DMM that has a very thin needle point. I also commonly use corsage or floral arrangement pins that can get at craft/hobby stores. These can be had in 2 to 3 inch lengths. I slip insulation over all but small gap at top and at the pin point. I connect via mini-grabber test lead to top of the pin to what ever test meter I am using. I like these as they have either a tear drop or pearl drop plastic ball at the top for grasping. Often can just stick these in the same top side hole as the EBC lead and they will stay there while you take the reading.

Jan is comparing apples and oranges somewhat with his TS820. The 820 has no regulated 12vdc supply and if its 9vdc regulator on the AF-AVR board goes bad it will greatly affect his 3.2 vdc RF-1 voltage just as it does on the 530/830 regulated supplies. The TS820 uses a trick to allow them to use a cheaper and lower dissipation pass device and that is a 68 ohm shunt bypass resistor around the pass transistor. This was common circuit in the old console TV power supplies. The TS820 AVR board is not immune from losing reference zener or series pass transistor. Replaced a few over the years.

It appears he measured D15 zener using the diode test function of his DMM. It is not a 0.7vdc zener. He is looking at barrier voltage. It is a 9vdc zener. In circuit should measure close to 3.2vdc at base of Q23 and approx 9vdc across R77 zener bias current resistor.

Dave it appears he is moving on to LM-317 or similar modification. His choice, but kind of sad as appears he asked for help and didnt let the ink dry before he started pulling components. Not something one would do unless troubleshooting indicates the need or you have exhausted troubleshooting.

One other thing you can help him with in the event his 3 terminal mod doesnt work out for him. I would measure the resistance to chassis ground of the 12vdc output and the 9vdc output. I dont have good notes but based on TS-830 I would expect something on order of approx 40 to 50 ohms for 12vdc and 80 to 100 ohms for the 9vdc load. If significantly lower resistance could indicate a fault on either bus and account for low output voltage. I typically test all these AVRs by loading with a 50 ohm dummy load resistor. Shouldnt see much more than approx 10 mv voltage drop.

Always need to determine if it is regulator fault or a load problem.

I frankly have never heard of the foil trace problems on the TS-530 that you mentioned.

With your 530 experience I need to move on and try to help others.

73s

Terry K9TW

47074. RE: TS-820S Carrier Unit Adjustment

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-19 12:56:01 UTC
From: <wagstw46@...>
Topic: 47069 Message: 47074

Byron:

You state that you have Never had to adjust TC1 and TC2 when aligning a TS820. I hope you dont mean that you skip that step of the alignment procedure. I would always measure it and then adjust based on the as found measurements.

I have never had any KW hybrid on bench that I did not as matter of routine adjust the " Carrier Set Point" or the "SSB Frequency Response". It is of course to large measure a "user preference adjustment" with some preferring a more bass response and others wanting a more "communications style" audio. Just have to remember how you set in in Rx is how you will sound in Tx.

First thing you have to realize is the Service manual has lots of errors beyond grammar and typos. Regarding Carrier Oscillator you need to first set the output level to 300mv and not 50 mv as the manual directs. Step 4.5 which uses Audio generator/wattmeter method is not very well written.

Some people believe there is only one way to adjust the SSB frequency response and that is by injecting mv level audio into mic line and setting the 3dB roll off on external wattmeter equally at 300hz and 2800hz. It is a good method but not the only method. Here are some methods you can use :

1. Some actually adjust TC-1 and TC-2 by ear. I dont recommend it.
2. Use the Marker and S-meter method. You can find this procedure in the TS-830 Survival guide. It works pretty well. Just remember to use Fast AGC and lite touch on VFO knob.
3. Use AF sig gen and external wattmeter method. Described a little better in the TS-830 manual than it is in the TS-820 manual. Essentially you load in CW mode to max out. Inject 5mv to 7mv at 1200 to 1500 hz into mic line and set Mic gain for 50 watts output (you use 50 watts for less stress on the rig as you will have some key down time making the adjustments). You then adjust the AF sig gen to 300 hz and 2800 hz and adjust carrier osc trimmers for half power at each end of the range.
4. Use an Audio spectrum analyzer software and a lap top and Rx noise bridge. Can be done without noise bridge if you can pick a time on dead band and clear frequency. I use a Palomar noise bridge and Spectro-gram. It is very easy and fun to see the pass band. My favorite and preferred method.
5. Use a RF spectrum analyzer (average KW hybrid owner doesnt own one)

There is nothing you can hurt and easy to change if you dont like the response. Since I run barefoot I tend to set my response a little higher than the typical bass response that KW hybrids are noted for. Worse you can do is get it sounding too thin and if you do easy to adjust.

Terry K9TW

47075. RE: TS-820S Carrier Unit Adjustment

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-19 13:55:55 UTC
From: <wagstw46@...>
Topic: 47069 Message: 47075

Byron:

Couple of additional points that may be obvious to you?

1. You cannot do anything about the IF filter response curves. They are what they are. All you can do by adjusting the Carrier Osc trimmers is what point in that frequency response curve that you insert the carrier.

2. When I talked about the preferred method using a AF sig gen. If you do not have a higher end sine wave function generator with ALC controlled output or digital output level indication make sure that you measure the output level and adjust it on each end. If using 5 mv then need to make sure generator puts out 5 mv at 300 hz and at 2800 hz. This requires a good true RMS AF VTVM. I have this gear only because I have paying customers who expect the alignments to be done well.

3. When I said to adjust for 3 dB roll off or 25 watts at each end of the audio spectrum you may not get 25 watts (precisely 1/2 power). More importantly is to adjust for as close to 1/2 power at 300hz and 2800hz or whatever values that you chose. That may be 30 watts or it may be 15 watts. Just adjust trimmer cap for the same lower level wattage at each end. If you do not have an external wattmeter you can use an RF probe and VTVM and measure RF voltage across your dummy load.

4. If you want to see what Spectro-gram looks like there is a sample in the Files section under the Repairs/Alignment tab. It is not as good a sample as it could be as it was taken without using a diode noise bridge and just used off air signal on 40 meters, but gives you an idea of what it looks like. You can set the high and low freq markers anywhere that you want. You will note that this response curve is shifted a little high. There are lots of FFT audio spectrum analysis software out there. I settled on Spectrogram as a free version was available off W5BIG website.

Terry K9TW

47076. RE: Output dropping above 28,2 Mhz

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-19 14:29:45 UTC
From: <sm7fyw@...>
Topic: 46768 Message: 47076

Good morning Terry
First, I have to thank you for taking the time to answer.

To answer your number one Q, yes, I have full output, measured with Bird.

Number two, yes, also correct (the third band switch position on 10m seems not to work, but is of no interest in this case) I hope.....

Number three, my friend, the owner has got one, and I will take rig over to his place later today hopefully

Number four, as far as I understand, (and that's not a lot, I know) the coil pack consists of 4 sections, osc coil unit, mix coil unit, ant coil unit and drive coil unit....

Now, this is a very stupid question, but the heterodyne crystal oscillator, is that the same as osc coil unit?
Of course it would be for the 28mhz, am I correct?
If so, have only tuned it by ear, and like I say, the receive works just fine (except third switch poss)

If you have a number on TP-3 on the RF board, of what its supposed to be, it would help.

Terry, I really do appreciate your help, and I do realize that Im out on thin ice, but will get back to you, as far as we have checked TP-3, but if you in the meantime have a suggestion, Im looking for it

Thanks in advance

Lars

---In TS-520_820_530_830@yahoogroups.com, <wagstw46@...> wrote:

Lars:

1. Are you saying that below 200 on the VFO dial that your 10 meters output power is good (80 to 90 watts output into dummy load at 200ma Ip) and above 200 on the VFO the output falls off?

2. Are you saying this only happens on these two bandswitch positions and all others bands are normal?

3. Do you have an RF probe and VTVM?

4. Did you adjust the Het Osc coils by measuring RF voltage at TP-3 on the RF board or just by ear?

Terry K9TW

47077. RE: Output dropping above 28,2 Mhz

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-19 15:31:28 UTC
From: <wagstw46@...>
Topic: 46768 Message: 47077

OK I am still not sure I fully understand the problem.

What I think you are saying is that on all bands with exception of 10 meters you have normal RF output power level at all positions of the VFO dial for a given bands allotted frequency range. On 10 meters band you have normal RF output when the VFO dial is above 200 and the RF power drops off when you turn dial below 200.

Yes the Het Osc is same as the Osc coil board.

It is not likely the problem has anything to do with VFO output or Het Osc output level, but I would check both on 10 meters below 200 on VFO dial to make sure to spec. I would think if VFO output level was falling off below 200 on the dial it would then affect all the bands and not just 10 meters.

Need RF probe or O-scope to do that. Measure on the IF board at VFO input. Should be approx 1.0 rms rf volts across full rotation of the VFO dial. Measure Het Osc level at TP-3 on RF board and it should be approx 800mv to 1.0 volts. If not repeat the adjustments. Dont leave set on the peak of the Het coil as oscillator may not reliably start each time you switch back and forth.

After that the best thing to do is measure the RF drive level to see where you first see it drop off at as you run the VFO below 200. You can do this in CW mode with the SG switch turned off. At TP-2 on the RF board you can measure the TIF input signal. It should not be band switch dependent. Should be approx 200mv regardless of VFO setting.

Next can measure at TP-1 on RF board. This is the output of the TX Mixer and it is somewhat band switch dependent. It is produced by mixing the TIF signal with the band specific Het Osc signal. Should be approx 2.0 rf volts.

Next to measure output at Plate of Driver tube and control grids of 6146 finals you need a 3 diode probe like a Heath PK-3 or a RF Millivolt Meter or O-scope as the levels are too high for a single diode probe.

It is possible there is a problem with 10 meter Mixer tank circuit or Drive tank circuit and associated band switch contacts. Also the Driver tube plate chokes and 6146 plate chokes could be coming in to play.

Really cant tell until you do some RF drive level measurements to see where the levels fall off at below 200 on VFO dial.

Terry K9TW

47078. RE: Output dropping above 28,2 Mhz

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-19 15:48:28 UTC
From: <sm7fyw@...>
Topic: 46768 Message: 47078

Thanks for coming back that fast, yes all correct, except power drops above 28,200 respectively 28,700...
Will follow your instructions asap....
Will keep you updated

Thanks
Lars

47079. Re: [TS-520_820_530_830] RE: Output dropping above 28,2 Mhz

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-19 16:20:38 UTC
From: W5RKL
Topic: 46768 Message: 47079

If I may add a comment or two to Terry's response about the various VFOs in the TS-520, 820, 530, and 830.

A common misconception by some hams is that the KW Hybrid internal and external VFO frequency range changes when the band switch changes. That's simply not true.

The TS-520/TS-820 internal and the remote VFO-520 and VFO-820 operate over a frequency range from 4.9Mhz to 5.5Mhz.

The VFO-520 and VFO-820 are the same VFOs that are in the 520 and 820 transceiver.

Also, the VFO-520 and the VFO-820 are interchangeable between the 520 and 820, no mods required, both are "Plug and Play" between the two transceivers. That means you can use a VFO-520 plugged directly into a TS-820 without any cable or VFO changes. The same applies with the VFO-820, it can be plugged directly into a TS-520 without any cable or VFO changes.

The TS-530/TS-830 internal VFO frequency range is from 5.5Mhz to 6.0Mhz.
The VFO-230 frequency range is from 5.4Mhz to 6.1Mhz
The VFO-240 frequency range is the same as the TS-530 or TS-830 internal VFO frequency range, 5.5Mhz to 6.0Mhz.

The VFO 240 is the same "analog" VFO that's in the TS-530 and TS-830.
The VFO-240 receives power from the TS-530 or TS-830 through the remote VFO connecting cable plugged into the rear read panel's VFO DIN socket.

The VFO-230 is a digital VFO which has it's own built in power supply.

The VFO-230 and the VFO-240 are not compatible with nor will they work with the TS-520 and TS-820.
The VFO-520 and the VFO-820 are not compatible with nor will they work with the TS-530 and TS-830.

73
Mike W5RKL

On 1/19/2014 9:31 AM, wagstw46@... wrote:
>
> OK I am still not sure I fully understand the problem.
>
>
> What I think you are saying is that on all bands with exception of 10
> meters you have normal RF output power level at all positions of the
> VFO dial for a given bands allotted frequency range. On 10 meters band

> you have normal RF output when the VFO dial is above 200 and the RF
> power drops off when you turn dial below 200.
>
>
> Yes the Het Osc is same as the Osc coil board.
>
>
> It is not likely the problem has anything to do with VFO output or Het
> Osc output level, but I would check both on 10 meters below 200 on VFO
> dial to make sure to spec. I would think if VFO output level was
> falling off below 200 on the dial it would then affect all the bands
> and not just 10 meters.
>
>
> Need RF probe or O-scope to do that. Measure on the IF board at VFO
> input. Should be approx 1.0 rms rf volts across full rotation of the
> VFO dial. Measure Het Osc level at TP-3 on RF board and it should be
> approx 800mv to 1.0 volts. If not repeat the adjustments. Dont leave
> set on the peak of the Het coil as oscillator may not reliably start
> each time you switch back and forth.
>
>
> After that the best thing to do is measure the RF drive level to see
> where you first see it drop off at as you run the VFO below 200. You
> can do this in CW mode with the SG switch turned off. At TP-2 on the
> RF board you can measure the TIF input signal. It should not be band
> switch dependent. Should be approx 200mv regardless of VFO setting.
>
>
> Next can measure at TP-1 on RF board. This is the output of the TX
> Mixer and it is somewhat band switch dependent. It is produced by
> mixing the TIF signal with the band specific Het Osc signal. Should be
> approx 2.0 rf volts.
>
>
> Next to measure output at Plate of Driver tube and control grids of
> 6146 finals you need a 3 diode probe like a Heath PK-3 or a RF
> Millivolt Meter or O-scope as the levels are too high for a single
> diode probe.
>
>
> It is possible there is a problem with 10 meter Mixer tank circuit or
> Drive tank circuit and associated band switch contacts. Also the
> Driver tube plate chokes and 6146 plate chokes could be coming in to
> play.
>
>
> Really cant tell until you do some RF drive level measurements to see
> where the levels fall off at below 200 on VFO dial.
>

>
> Terry K9TW
>
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>
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

47080. RE: Output dropping above 28,2 Mhz

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-19 17:01:07 UTC
From: <wagstw46@...>
Topic: 46768 Message: 47080

Pretty odd in a Het Osc rig for rf output power to vary with the VFO setting. Can happen with a PLL rig if VCO level is varying at each end of the VFO travel.

It is sounding more and more like a band switch problem, but only way to tell for sure is to measure VFO and HET LO levels and confirm to spec and then run the TX Level Diagram. Since 20 meters is working well I would run and record RF drive levels at TIF, TX Mixer output, Drive tube plate output, and 6146 control grid input at 14.200mhz. These should be close to those noted in your service manual. Always good to have these measured and recorded when rig is working as it should. Helps with future troubleshooting.

If Mike or someone else has any ideas please jump in and help here.

Terry K9TW

47081. Re: [TS-520_820_530_830] RE: Output dropping above 28,2 Mhz

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-19 17:25:56 UTC
From: <wagstw46@...>
Topic: 46768 Message: 47081

Mike:

Regards common misconception:

I was talking about VFO output level and not frequency. I know VFO output and frequency have nothing to do with the band switch position.

Since he reported output power dropping below 200 on the VFO dial I thought good idea to first make sure he had good spec VFO output level from 0 to 500 for good LO mixing action at the TIF Mixer. VFO level has nothing to do with band switch, but could have a low level and not be as big a factor on the lower bands.

A low level TIF could result in lower output from TX Mixer which would be more of a pronounced problem on 10 meters than the lower bands. Couple that with low 10 meter Het Osc level and RF drive on 10 meters could be low.

I just wanted him to make sure he had good VFO output level from 0 to 500 and to confirm he has it on 10 meters where the output problem manifests itself even though the VFO doesnt know what band rig is on.

Terry K9TW

47082. KENWOOD HYBRID NET UPDATE (January 19, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-19 19:37:55 UTC
From: Mark Gilger
Topic: 47082 Message: 47082

```
Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHo
mePage.htm
```

The net recently celebrated it□s 2nd year in
existence on November 1st, 2013. The yearly
check-in totals are posted at the bottom of this
message. It showed we had a 10% increase in our
Saturday check-ins and an 8% on Sunday as compared to the 2012 check-ins.

```
The Saturday 40 meter net had 11 stations
checking in under good band conditions. There
were 2 new stations checking in, WA1FFT, and
N9JR.. We had the following number of radios checking in.

3 running TS-520(x)
2 running TS-530(x)
3 running TS-820(x)
0 running TS-830S

I was running my TS-940s with an L4B amplifier.
```

The Sunday□s 20 meter net had 17 stations
checking in under good band conditions. There was
7 new stations checking in, VE7BGJ, NT9M, KB5NBJ,
KB1ZIQ, K6HRU, AE5DW, and KD7DPK. Out of those, there was:

```
5 running TS-520(x)
1 running TS-530(x)
4 running TS-820(x)
4 running TS-830S

I was running my 820 twins, TS-820s + R-820.
```

We have been having several people checking in
regularly with their TS-430, TS-440, and
TS-940□s, which of course is not a hybrid,
although over 30+ years old. Everyone is welcome
as long as they have an interest in the older equipment.

```
If anyone would be interested in filling in as a
net control station, please send me an email.
Currently it's just myself, WB2KNR and WB0SGA. I
```

would like to get several more. If we do, we can
alternate so everyone might be on a 3-4 week
rotation. It's a lot of fun and a good way to
make sure you station is optimized.

For anyone that has not heard, we have a new web
site that WB4HFN is hosting. He currently has a
very nice site for Drake, Collins and Heathkit
and now Kenwood Hybrids. Good quality manuals
plus sale flyers and brochures will be found
here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 ☐ Oct. 2012 Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins

November 2013, Saturday☐s net total = 94, Sunday☐s total = 85
December 2013, Saturday☐s net total = 87, Sunday☐s total = 103
January 2014, Saturday☐s net total = 51, Sunday☐s total = 60 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

47083. 820S VFO Rebuild and vias resolder, Band switch sprocket

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-19 12:44:00 UTC
From: Michael Sylvester
Topic: 47083 Message: 47083

The radio that went up for raffle last week (3 weeks long raffle to support Patriot radio, The Micro Effect .com) is working excellent. It had no dig display and no receive 2 weeks ago.
It does need the smaller bandswitch sprocket on the wafer shaft though. Right now it's sporting an abundance of JB Quick metal epoxy, 6 or 8 layers, extending an inch down the shaft, before it was solid. After exhuastive study of the 2 detents under magnification, one in front at the switch and one in the HV cage, both are centered and in line. They are quite worn and both have side play.
The wafers were out of sinc and it was a pain getting the shafts from RF board to HV cage in line when I had no functional set screws on the darn bandswitch upper sprocket. I spent hours putting many coats of JB on that buggered up sprocket to the shaft before it was rock solid, AFTER I WAS 100% sure I had detents centered and all wafers in line. It was quite buggered from a wiped out plastic coupling that was also replaced, loctite on all 4 set screws.
Man, talk about a soft bandswitch, was real bad with a coupling slipping and the 2 detents out of alignment. She's tight and crisp now.
Anyone have a set of black sprockets laying around (or white for that matter) let me know, chains too.
(I'm buying those 820S units that are piling up in the corner.)
I've found new much cheaper couplings that I might offer, need to test them first though.
I found that the set screws from the old plastic couplings are same threads as sprocket screws, set screws are harder, taller threads, less prone to fail being grade 8, if the screw holes weren't already gone I could've used those to lock it down.

If I were making them I would go with a thicker collar so as to have more threads, less likely to strip out. with grade 5 screws or even better, hardened set scews.
I also note that there is the smaller black set and a larger diameter white set of sprockets. I think the same rotational torque levels are present at the lock screws so no change to the stripping issues were achieved.
Unless they went with a thicker collar for more threads, 3 or 4 set screws instead of just 2, no improvements were realized. Different pull forces are being put on the chain with the larger sprockets however.
Are the smaller black and the larger white sprockets interchangeable?
I should think so, the only constraint would be the need for a longer chain for the white.
If switching from the black to white you will need the matching chain or be real good with wire and needle nose.
I'm not sure if other components would be in the way to prevent switching from BL to WH, I have both but didn't check.

It would appear that I can now rebuild the 820S VFO. I did an 820 VFO first, don't have a radio to put that into however.

I find in the rebuild of VFO that temper is gone in the spring, the source of the problem of VFO issues.
2X now.
I also note that if it is "self lubricatin phosphor Bronze" it is however chrome plated.

There is corrosion at the mechanical electrical connection point on the shoulder of the variable cap shaft and on the spring surface.
Being different metals, some electrolitic action will occur (corrosion).
I also note ON BOTH VFO's that I've done that there is a green substance remaining on the cap shaft in this area.
I believe this to be "Oxiban" a greasy copper based anti-oxidant that was used extensively in industry during that time period. It is hard and unprotecting after 35 years.
After removing knobs, faceplate, VFO comes out.
Disassembly, rebuild by cleaning, lubrication of bearings with fine grade white lithium grease, re-arch and removal of much of the chrome plating of the spring, a different electrical connection than original stock, a bit of reshaping to my specs, reassemble.

After installing both my first Vias board and Rebuilt VFO,
VFO is rock solid. I also now understand the vernier and have a handle on that.
Kinda nice to see a solid 820 Digital display and vernier working perfectly and the 25KHZ marker is dead nuts on,
while matching the vernier too.

Is there such a thing as a DVD for play on television for a man that wants to get his ham ticket but can't see well enough to study a book and doesn't do computers?
The man's mane is Hubert Schmidt, lives in Lynville, TN.
Anyone in that area that would be willing to help an aging man get his ticket? If so contact me please, off group, personal email. (He can't read because his sight is failing, he asked me if there were any DVD study discs).

I will be posting on eBay 2 linear amps this week and one station monitor. LA-1000 and LA-1000A
SM-220 station monitor in real good shape.
I may have another 820S refurb, detailed, VFO rebuilt, Vias solder fix,
my "you can't do that" wafer refinish,
up for sale on eBay in a week or so.

"An Ill wind Blows"
Michael///KD0WSJ

edited for length & content/wb7uqu

47084. Re: [TS-520_820_530_830] RE: Output dropping above 28,2 Mhz

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-19 23:05:18 UTC
From: <sm7fyw@...>
Topic: 46768 Message: 47084

Hello again
Life has a way of get in the way of fixing radio....
Well, anyways, just saw latest answer Terry, took my own external VFO, that I know works, but same result, so out ruled low VFO output

Still haven't done more, and now tired of even see the rig

Will get back as soon as urge comes back!

Thanks again for now!

Lars

47085. Re: [TS-520_820_530_830] RE: Output dropping above 28,2 Mhz

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-20 00:10:27 UTC
From: <wagstw46@...>
Topic: 46768 Message: 47085

Ok when you get time I would run TX Level diagram to see where you are losing the RF drive level at. My guess is that TIF input to TX Mixer is OK, but I would still measure and record it.

Will be interesting to see what the output of the TX Mixer looks like. Again it should be something on the order of 2 volts. You can measure that with a standard one diode RF probe and VTVM, but do not attempt to use that probe to measure output of the Driver tube or the control grids of the Finals. The PIV of the diode is not high enough and it will be damaged.

Terry K9TW

47086. TS-530 SP Anyone interested?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-20 18:39:47 UTC
From: <dlbowders@...>
Topic: 47086 Message: 47086

Hello Group,

I am in the process of adding some AM gear to my station and have two TS-530 SP's in very good condition that I will be letting go. Serial no's are 4080348 and 6050040. I thought I would offer them here before going to general public. If you are interested, send me an Email off group and I will send pitures and particulars. I would like $350 each plus shipping but am willing to take offers this week. If no interest here I will be taking them to Dalton Hamfest or Ebay. These rigs were not functioning when I got them and I did some service work on both. So you know they are not previously owned by a little old lady who only used them to check into the net on Sunday nite. Seriously, they are in good condition.

73, Don K5HFG

47087. TS830S No Output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-20 19:54:11 UTC
From: Keith Hutt
Topic: 47087 Message: 47087

Hi All,

I have acquired a 830S that has been in storage for quite a while, it was placed in storage when it lost its transmit, according to the son of the owner (now SK). The previous owner had started to carry out repairs/refurbishment.

On a visual inspection of the boards this is what I found.

On the Final Unit (X56-1380-00)

R 2-5 20 ohm Resistors removed

R 7-8 100 ohm Resistors removed

These have now been replaced

Rectifier Unit (X43-1370-00)

R 11 470ohm Resistor Removed

R 15-16 56K Resistors Removed

These have now been replaced

In the Final Cage C7,C8, L1 were removed, these have also been replaced.

These were obtained from The Hybrid Store

Relay RL1 was also removed -this has been replaced (Hybrid Store)

A known good pair of 6146b and a known good 12by7a were installed.

On powering up the 830 receive is working fine on all bands.

On Transmit the following occurs

IP SSB key down adjust for 60ma

Tune,ALC unable to peak the drive, there is no real deflection on the meter.

Meter moves about 1mm on key down.

SG switch is on.

HV reads 900V on Key Down

I have measured the voltage at pin 3 on the tubes I get 123VDC on RX 118VDC on TX same on both tubes. I am sure I should get 265VDC at pin 3.

Band switch has been cleaned using de-oxit.

The band switch plastic coupling has a slight crack at the allan screw, but it is turning correctly I will change this shortly.

So please any ideas suggestions where to go next will be greatly appreciated.

Regards

47088. Re: [TS-520_820_530_830] TS830S No Output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-20 20:29:23 UTC
From: Mike W5RKL
Topic: 47087 Message: 47088

Keith,

It does appear the final tube screen voltage is a bit low.

The Rectifier Unit's 210A supply provides plate voltage for the driver tube on the RF Unit board plus screen voltage to the final tube screen through the Final Unit's "SG" terminal. If the Rectifier Unit's "210A" supply output voltage is low then the driver tube's plate and final tube screen voltage will be low.

The filter capacitors for the 210A supply are C180 and C181 on the IF Unit. You said you replace R11, 470 ohm 1/2 watt resistor.

73
Mike W5RKL

On 1/20/2014 1:54 PM, Keith Hutt wrote:
>
> Hi All,
>
> I have acquired a 830S that has been in storage for quite a while, it
> was placed in storage when it lost its transmit, according to the son
> of the owner (now SK). The previous owner had started to carry out
> repairs/refurbishment.
>
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>
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> Tune,ALC unable to peak the drive, there is no real deflection on the
> meter.
>
> Meter moves about 1mm on key down.
>
> SG switch is on.
>
> HV reads 900V on Key Down
>
> I have measured the voltage at pin 3 on the tubes I get 123VDC on RX
> 118VDC on TX same on both tubes. I am sure I should get 265VDC at pin 3.
>
> Band switch has been cleaned using de-oxit.
>
> The band switch plastic coupling has a slight crack at the allan
> screw, but it is turning correctly I will change this shortly.
>
> So please any ideas suggestions where to go next will be greatly
> appreciated.
>
> Regards
>
>

47089. RE: TS830S No Output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-20 21:02:05 UTC
From: <wagstw46@...>
Topic: 47087 Message: 47089

Sounds like you have lost one of the filter caps in your Screen grid supply or you have a bad/dirty molex Connector 14 on the IF board. I would gently rock and/.or un-plug and re-plug Conn 14 as a first step.

It is a C-R-C Pi-filter (C180, C181, and R11). You replaced R11 and the filter caps are located on the IF board. You can buy replacement caps from Ken K4EAA. I would replace the 300 caps also (Driver tube anode supply) while you have the board out.

This means reduced screen grid voltage on the Driver tube so RF output will be low. Need approx 47rf volts and -60vdc bias on 6146 control grids to get ALC indication.
Screen grid voltage of Driver tube Pin 8 should be approx 215-220vdc (schematic is wrong) in TX mode. Its RF output will be very sensitive to screen grid voltage.

If you have a multi-diode RF probe or an O-scope or RF millivolt meter you can measure the RF drive voltage at Pin 5 of 6146 finals. As mentioned it needs to be approx 47rf volts. Measure it with CAR level pot at approx 1200 position.

Terry K9TW

47090. TS-820S DG-1 Problem

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-21 03:48:03 UTC
From: Byron
Topic: 47090 Message: 47090

Hello- I have a DG-1 that will only register a 0 or a 4 or an 8 in the tenths of KHz digit (the far right digit). The VFO tunes very smoothly, and as I slowly tune through a carrier I hear the beat note change freq and watch the display change from a 0 at far right to a 4, then to an 8, then back to 0 as I move up one KHz.
I swapped a known good DG-1 module into the TS-820S (everything else is working fine) and the problem went away.
Would this issue be one that may possibly be cured by re-soldering the plated through holes in the digital board in DG-1? I was studying the write-up on doing this. Thanks for any suggestions, Byron WA5THJ

47091. RE: FOR SALE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-21 11:56:21 UTC
From: <wagstw46@...>
Topic: 34493 Message: 47091

Only thing left is the Palomar RX Noise Bridge. Thanks to those who inquired and purchased. Might consider trade for KW hybrid spare boards or parts boards.

Please contact off the reflector.

Terry K9TW

47092. RE: TS-820S DG-1 Problem

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-21 13:19:41 UTC
From: <tjb813@...>
Topic: 47090 Message: 47092

YES

47093. Re: [TS-520_820_530_830] RE: FOR SALE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-21 16:11:48 UTC
From: W LEWIS
Topic: 34493 Message: 47093

Terry,
Did you receive my off net message regarding a trade for the Noise Bridge?
Butch Lewis
KØPSA

From: "wagstw46@..." <wagstw46@...>
To: TS-520_820_530_830@yahoogroups.com
Sent: Tuesday, January 21, 2014 5:56 AM
Subject: [TS-520_820_530_830] RE: FOR SALE

Only thing left is the Palomar RX Noise Bridge. Thanks to those who inquired and purchased. Might consider trade for KW hybrid spare boards or parts boards.

Please contact off the reflector.

Terry K9TW

47094. Re: [TS-520_820_530_830] TS830S No Output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-21 19:09:59 UTC
From: <keith.hutt@...>
Topic: 47087 Message: 47094

Just to confirm, R11 was replaced with a 470 ohm 1/2 watt Resistor.

All 4 caps have now been replaced on the IF unit. No difference in original fault.

I forgot to add something on the original post, which is. When the mode switch is switched CW/USB and USB/LSB the RL1 Relay (AF Board)activates it does not "chatter" just activates once.

Any further suggestions measurements will be carried out tomorrow after work.

Regards

Keith G0TSH

47095. Re: [TS-520_820_530_830] TS830S No Output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-21 21:10:10 UTC
From: <wagstw46@...>
Topic: 47087 Message: 47095

What voltage do you have on Pin 8 of the Driver tube in Rx and TX modes?

What voltage do you have at the SG terminal post on the Finals Board?

Terry K9TW

47096. Re: [TS-520_820_530_830] TS830S No Output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-21 21:38:58 UTC
From: <wagstw46@...>
Topic: 47087 Message: 47096

I forgot to mention would not use a 1/2 watt resistor for R11. I would use at minimum a 1 watt metal film resistor.

Screen grid current contribution from the Finals and the Driver tube approaches 30 ma not counting 3 or 4 ma of voltage divider bleeder current for the Driver tube supply.

P = .030 x .030 x 470 = .423 watts.

Terry K9TW

47097. Re: [TS-520_820_530_830] TS830S No Output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-21 19:39:58 UTC
From: <w0nta@...>
Topic: 47087 Message: 47097

Keith,

Sounds like you have VOX turned on causing the relay to energize.

73, Dick, W0NTA

47098. RE: TS-530 SP Anyone interested?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-22 02:34:24 UTC
From: <dlbowders@...>
Topic: 47086 Message: 47098

Both TS-530SP's have been spoken for.
Thanks,
73, Don K5HFG

47099. Re: [TS-520_820_530_830] Nylon gear collar repair/replacement

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-22 03:22:54 UTC
From: Tom Armstrong
Topic: 34493 Message: 47099

For what it's worth, Stock Drive Products has metric ladder chain sprockets that may work for the Hybrids. Available materials are brass, acetal and stainless.

Here is link for online shopping:

https://sdp-si.com/eStore/Catalog#

Select metric and scroll down to the ladder chain section. My 820 has 6mm bore and 4.8mm pitch with 12t black sprockets on the control shaft and 20t white sprockets on the individual drives. The black sprocket hubs have longitudinal cracks at the set screw holes.

For my TS-820S Drive control they do not stock an exact replacement (the pdf catalog does show an exact match), but the smaller sprocket is only one tooth off (13 v 12) and I think it would work. The ladder chain in my radio has a spring-loaded link that I believe provides tension to keep the control shaft in place and could probably stretch a bit to accommodate a 13t sprocket.

I have seen pictures of other model Kenwoods that have different size sprockets, so you'll have to open it up and visually confirm what you have.

They are not cheap, however, and I would try repairing the existing sprockets first, using one of the many ideas already presented.

Tom
KB7VXY

From: Mark Gilger
To: TS-520_820_530_830@yahoogroups.com; TS-520_820_530_830@yahoogroups.com
Sent: Friday, January 17, 2014 7:32 AM
Subject: Re: [TS-520_820_530_830] Nylon gear collar repair

Several years ago I repaired my sprocket in several of my hybrids using the following posted procedure.

With all the talk lately about this subject I figured it was time to check and see how my repairs were holding up. I removed both radio's from service and removed the covers and found all were as I left them several years back. The repair was super cheap and simple, and seem to be holding up well.

http://wb4hfn.com/KENWOOD/Articles/024_Technical_Exchange.pdf

http://wb4hfn.com/KENWOOD/KenwoodHomePage.htm

Regards,
Mark, WB0IQK

47100. Re: [TS-520_820_530_830] Nylon gear collar repair/replacement

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-22 14:10:56 UTC
From: Craig Roberts
Topic: 34493 Message: 47100

A few days ago I repaired my severely cracked TS-830S sprocket wheels using Mark Gilger's simple, no-disassembly-required cable tie cinching method utilizing Loctite Epoxy Plastic Bonder (available at Home Depot). This is one of the few products I found that is said to work with notoriously difficult to bond Nylon.

http://www.loctiteproducts.com/p/13/7/epxy_plstc_s/overview/Loctite-Epoxy-Plastic-Bonder.htm

If the cable ties are snugged sufficiently, the cracks in the nylon sprocket wheels can be closed even with the set screws in place. The Loctite epoxy dries white so the repair is not unsightly at all. Theoretically at this point I could probably remove the cable ties but -- as they are also white and I took pains to orient them uniformly (boy - talk about anal, eh?) they don't look bad and may (or may not) provide an extra measure of security.

I will, of course, be among the first on the list for replica sprocket wheels should they ever become available, but Mark's terrific repair method is just the ticket in the meantime.

73,

Craig
W3CRR
>

47101. TS830 vs the TS530

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-22 19:03:41 UTC
From: <bsa0791@...>
Topic: 47101 Message: 47101

I know the TS830 has the best receiver. Is it much better receiver than the TS530 or are they close in performance.

Thanks

47102. Re: [TS-520_820_530_830] TS830 vs the TS530

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-22 19:30:13 UTC
From: Craig Roberts
Topic: 47101 Message: 47102

Well, that's a matter of opinion and, to a certain extent, the individual radio's setup. I have a TS-830S and a TS-530S. Both transceivers carry their full compliment of filters.

For hard core CW in difficult conditions I usually prefer the 830 because its dual IF filtering and variable bandwidth tuning (VBT) help "dig out the toughies". But, for sideband my choice is the 530. Its receiver audio sounds just a bit cleaner to me with more headroom. Not that the 830 is bad, mind you, but the 530 is a touch more pleasant to listen to -- especially for long stretches.

On transmit (even though you didn't ask) both radios garner excellent audio reports. The RF processor on the 830 is more advanced that the simpler, 530 speech "enhancer" but I use processing very conservatively and sparingly, so I haven't noted any practical difference in the two radios' transmit quality.

It should be noted that the variations between the two receivers, slight though they may be, could be a product of my individual radios. My 530 arrived in much better shape and has required far fewer "renovations" than the 830. Plus, I just finished restoring the 830 and it has yet to receive a full, nitty gritty, re-alignment with a full array of test instruments.

73,

Craig
W3CRR

47103. Re: [TS-520_820_530_830] TS830S No Output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-22 20:49:26 UTC
From: <keith.hutt@...>
Topic: 47087 Message: 47103

You Are quite correct, I obviously had caught it

Keith G0TSH

47104. Re: [TS-520_820_530_830] TS830S No Output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-22 20:48:46 UTC
From: <keith.hutt@...>
Topic: 47087 Message: 47104

Hi,

SG Terminal Post Voltage 120.9

Pin 8 Driver Voltage RX 254.4
TX 246.5

I measured the V with the driver removed.

Regards

Keith G0TSH

47105. Hybrid Light Gray Paint...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-22 22:31:29 UTC
From: <billgv@...>
Topic: 47105 Message: 47105

Hi all!

Thought I'd share a great find with the group...

Lowes has a spot on match spray can for the light gray case paint for the TS-820, etc.

It's under the brand name Blue Hawk (actually Valspar) with the color name "Gloss Smoke Gray" (number 0394616). A 12 ounce can is $3.98. ;)

73!

Bill - N7YGU

47106. Re: [TS-520_820_530_830] Hybrid Light Gray Paint...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-22 23:29:05 UTC
From: Mark Gilger
Topic: 47105 Message: 47106

Bill,

The Blue Hawk is actually several shades
different than original hybid paint. I tried
that, any several others, including the match
that's sold on ebay, before I ended up going to a
paint manufacture here. I ordered 6 cases of the
correct match. I sold 5 cases on here to others
willing to split the cost with me. Of course it's
your radio, but I'm pretty picky and I did not
want something that was a couple shades from original.

I've also heard of guys taking their case to a
place like NAPA auto parts. Heard that they do
a good job of matching. You need to have them do
the inside cover though, as the outside has faded over time.

Good luck.

Mark, WB0IQK

At 05:31 PM 1/22/2014, billgv@... wrote:
>
>
>Hi all!
>
>
>
> Thought I'd share a great find with the group...
>
>
>
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>
>
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> It's under the brand name Blue Hawk (actually
> Valspar) with the color name "Gloss Smoke Gray"
> (number 0394616). A 12 ounce can is $3.98. ;)
>
>
>
>73!
>
>

>
> Bill - N7YGU
>

47107. Re: [TS-520_820_530_830] Hybrid Light Gray Paint...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-22 23:45:06 UTC
From: Jan Servaites
Topic: 47105 Message: 47107

I match old paint all the time for various reasons, and any automotive paint store (I guess that could include NAPA, I think they sell Martin-Senour paints) will scan the old original paint and make a formula and mix as much as you want. The next question is the amount of flattener to add because the original was a satin finish, not a high gloss. It is very involved process, but worth it.
Jan N8CBX

Mark Gilger wrote:

>
>
> Bill,
>
> The Blue Hawk is actually several shades different than original hybid
> paint. I tried that, any several others, including the match that's
> sold on ebay, before I ended up going to a paint manufacture here. I
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> pretty picky and I did not want something that was a couple shades
> from original.
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> parts. Heard that they do a good job of matching. You need to have
> them do the inside cover though, as the outside has faded over time.
>
> Good luck.
>
> Mark, WB0IQK
>
> At 05:31 PM 1/22/2014, billgv@... wrote:
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>> Hi all!
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>> $3.98. ;)
>>
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>>
>> 73!
>>
>>
>>
>> Bill - N7YGU
>
>
>
```

47108. Re: [TS-520_820_530_830] Hybrid Light Gray Paint...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-23 00:39:18 UTC
From: Cliff White
Topic: 47105 Message: 47108

One thing worth noting, is that the Kenwood isn't all exactly the same. I got a new cover for my 820S from a group member a while back, and it was a slightly different shade than the old one. It was obvious both were the original paint.

On another note, (and this might have been intended as slightly different), my SM-220 is a third shade.

Respectfully,
Cliff White, W5CNW
w5cnw@... <mailto:w5cnw@...>
On 01/22/2014 05:45 PM, Jan Servaites wrote:
>
>
> I match old paint all the time for various reasons, and any
> _automotive paint store_ (I guess that could include NAPA, I think
> they sell Martin-Senour paints) will scan the old original paint and
> make a formula and mix as much as you want. The next question is the
> amount of flattener to add because the original was a satin finish,
> not a high gloss. It is very involved process, but worth it.
> Jan N8CBX
>
> Mark Gilger wrote:
>>
>> Bill,
>>
>> The Blue Hawk is actually several shades different than original
>> hybid paint. I tried that, any several others, including the match
>> that's sold on ebay, before I ended up going to a paint manufacture
>> here. I ordered 6 cases of the correct match. I sold 5 cases on here
>> to others willing to split the cost with me. Of course it's your
>> radio, but I'm pretty picky and I did not want something that was a
>> couple shades from original.
>>
>> I've also heard of guys taking their case to a place like NAPA auto
>> parts. Heard that they do a good job of matching. You need to have
>> them do the inside cover though, as the outside has faded over time.
>>
>> Good luck.
>>
>> Mark, WB0IQK
>>
>> At 05:31 PM 1/22/2014, billgv@... wrote:
>>
>>>

```
>>>
>>> Hi all!
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>>> $3.98. ;)
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>>> 73!
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>>> Bill - N7YGU
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47109. Re: [TS-520_820_530_830] TS830S No Output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-23 03:58:10 UTC
From: <wagstw46@...>
Topic: 47087 Message: 47109

This is in CW mode and is positive 120vdc and not negative 120vdc?

Your 210A SG supply to the Driver tube looks good. If 210A is good then it should be supplied thru RL-1 relay NC contact to Mode Switch to SG1 thru choke L1 to PD2 to SG post on final board.

What is voltage on SG1 post on Rect Board? Maybe bad NC contact in RL-1?

What is the voltage at SG post on Final board in Tune Mode?

I have never seen bad RL-1 contact or bad Mode Switch contact or bad L1 choke.

Just need to measure voltage along the path from 210A post on Rect board to SG post on Final board to see where losing it at.

Terry K9TW

47110. RE: [TS-520_820_530_830] TS830 vs the TS530

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-23 10:47:07 UTC
From: fpath fpath
Topic: 47101 Message: 47110

BSA 0791,

Please remember to use name\callsign at end of email.

I have both radios, whilst the 830 is double conversion and 530 is single conversion, and if aligned properly very little difference in recieve performance to the ear, in my opinion. 830s has some nicer features VBT etc.

Get both you know you deserve them

73s

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: bsa0791@...
Date: Wed, 22 Jan 2014 11:03:41 -0800
Subject: [TS-520_820_530_830] TS830 vs the TS530

I know the TS830 has the best receiver. Is it much better receiver than the TS530 or are they close in performance.

Thanks

47111. RE: [TS-520_820_530_830] TS830 vs the TS530

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-23 11:25:59 UTC
From: <wagstw46@...>
Topic: 47101 Message: 47111

If you want to see measured receiver performance (noise floor, agc threshold, blocking etc) look at Sherwood Engr site. The TS520, TS820, and TS830 results are listed there. Unfortunately I did not see the TS530 test results.

As it has been mentioned the TS530 is single conversion and lacks the VBT function.

A full filtered TS-830 (with proper filter combination that optimizes the VBT function) is the better receiver for contest and CW operators when it comes to selectivity.

I think the TS530 is quieter and signals seem to jump out as you tune across the bands.

If I had to pick one based on receiver alone I would pick the TS830. If I was to pick one over all it would be a TS830. You will find some real passionate supporters of the TS820 as well.

If I had to pick one for receive audio quality it would be the old TS520. There is something about that old OTL complementary pair that sounds better to my ear than the IC chip audio amps.

Dave had best idea..... own a TS530 and a TS830. Of course both need to properly aligned before you can pass judgement as so many fingers have been inside most of them over the years.

Terry K9TW

47112. Re: Hybrid Light Gray Paint...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-23 15:02:28 UTC
From: Brian Allen
Topic: 47105 Message: 47112

I was lucky enough to get in on Mark's paint. A very good match!

brian kb4mng

47113. Re: [TS-520_820_530_830] TS830S No Output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-23 15:35:38 UTC
From: <keith.hutt@...>
Topic: 47087 Message: 47113

This is in CW mode and is positive 120vdc and not negative 120vdc? That is correct

Voltage on SG1 Post on the Rectifier Board is +130.7 vdc

Voltage at SG post on Final Board in Tune mode is +128.6 vdc

Just need to measure voltage along the path from 210A post on Rect board to SG post on Final board to see where losing it at. +129vdc

Regards

Keith G0TSH

47114. Re: [TS-520_820_530_830] TS830S No Output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-23 17:05:07 UTC
From: <wagstw46@...>
Topic: 47087 Message: 47114

Keith:

I am apparently being too cryptic. I think you told us that you had 256vdc on the screen grid of the Driver tube. If that is true then should have approx 256 vdc on 210A at the Rect Board.

If you have 256 vdc on 210A then it tells you that your SG supply rectifier and pi-filter are good.

So what I was suggesting is that you then make measurements in CW Mode only along the entire path to the Screen Grids of the 6146 final tubes from 210A on the Rect Board to Pin 3 of the 6146 final tube sockets. .

Assuming that 210A at Rect Board is good then the next place to measure would be SG-2 where you should still read approx 256vdc thru the Normally Closed contacts of RL-1 relay.

The next place to measure would be SG-1 on the Rect Board. Should still read approx 256vdc at SG-1.

We need you to look at the schematic and measure the voltage at transition or terminal points along the path and tell us what is the first place you do not obtain 256 vdc and first see 120vdc.

Places where you could be losing the voltage would be a bad NC contact at RL-1, shorted of greatly reduced resistance at R15/R16 Tune mode divider resistors. Bad mode switch contact etc. All places where could have IR drop.

I am probably not explaining it clearly.I dont know your experience level. Do we need to take one reading at a time?

I just jumped in as normally this is a relatively easy problem to find and fix.

I have to get back to my bench as I have to finish a TS830 and just got a TS530 that I need to start. I am sure Mike or others can talk you through this .

Terry K9TW

47115. TS830 No TX, RX down; A common problem?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-23 18:45:12 UTC
From: Jan Servaites
Topic: 47115 Message: 47115

My 830 is showing the same symptoms (from what I'm seeing out there with a majority of 830s) . There's got to be a common problem area here and I'm going to try to find it.
By the way, I have done the normal hybrid maintenance of HV, screen, & plate recap. Both IF & RF boards have been painstakingly cleaned (just the RF board took about 20 hours of time; Wafers are all good). Driver tubes have been swapped in/out with no improvement.

Terry, please post (if you haven't already) a list of areas/components to troubleshoot.
A lot of test equipment is available here, so I can proceed with any troubleshooting that you recommend.
Thanks
Jan N8CBX

47116. Re: [TS-520_820_530_830] TS830S No Output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-23 18:46:31 UTC
From: Mike W5RKL
Topic: 47087 Message: 47116

Keith,

Do this. Place the MODE switch to TUNE then measure the Rectifier Unit's "SG1" and final unit's "SG" terminal voltage? Are both of them now "+254VDC"? If so then I the Rectifier Unit's "SG2" and "TUNE" Mode switch wires have been "switched".

73
Mike W5RKL

On 1/23/2014 11:05 AM, wagstw46@... wrote:
>
> Keith:
>
>
> I am apparently being too cryptic. I think you told us that you had
> 256vdc on the screen grid of the Driver tube. If that is true then
> should have approx 256 vdc on 210A at the Rect Board.
>
>
> If you have 256 vdc on 210A then it tells you that your SG supply
> rectifier and pi-filter are good.
>
>
> So what I was suggesting is that you then make measurements in CW Mode
> only along the entire path to the Screen Grids of the 6146 final tubes
> from 210A on the Rect Board to Pin 3 of the 6146 final tube sockets. .
>
>
> Assuming that 210A at Rect Board is good then the next place to
> measure would be SG-2 where you should still read approx 256vdc thru
> the Normally Closed contacts of RL-1 relay.
>
>
> The next place to measure would be SG-1 on the Rect Board. Should
> still read approx 256vdc at SG-1.
>
>
> We need you to look at the schematic and measure the voltage at
> transition or terminal points along the path and tell us what is the
> first place you do not obtain 256 vdc and first see 120vdc.
>
>
> Places where you could be losing the voltage would be a bad NC contact
> at RL-1, shorted of greatly reduced resistance at R15/R16 Tune mode
> divider resistors. Bad mode switch contact etc. All places where could

> have IR drop.
>
>
> I am probably not explaining it clearly.I dont know your experience
> level. Do we need to take one reading at a time?
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>
> I just jumped in as normally this is a relatively easy problem to find
> and fix.
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> I have to get back to my bench as I have to finish a TS830 and just
> got a TS530 that I need to start. I am sure Mike or others can talk
> you through this .
>
>
> Terry K9TW
>
>

47117. Gordon-n6wk - SK

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-23 18:54:30 UTC
From: Joseph Stiles
Topic: 47117 Message: 47117

Greeting Group,

It's with a heavy heart and sadness that I need to tell you about the passing of one of this groups
long time members & past moderator:

Gordon-N6WK, went SK on January 1, 2014 after some medical problems.

For those that are new to the group, you don't know what you missed. But, Gordon
maintained: N6WK.com an excellent repository of information. Along with being an
"Elmer," he is, and will always remain a great guy.

73 Gordon!

Go here for more info: http://www.legacy.com/guestbooks/pressconnects/guestbook.aspx?n=gordon-benjamin&pid=168892326&cid=full#sthash.I320BcEJ.QRNzGJLH.dpbs

73 Joe
WB7UQU
Kenwood TS-520_820_530_830 yahoo group Co-owner

47118. Re: [TS-520_820_530_830] TS830S No Output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-23 19:01:42 UTC
From: Mike W5RKL
Topic: 47087 Message: 47118

Keith,

I say measure the SG1 and SG terminal voltage in TUNE mode because the +128VDC you are seeing on the Rectifier Unit "SG1" and final unit "SG" terminals is what you would see "IF" the MODE switch is set to TUNE.

Here's how you calculate the final tube screen voltage in TUNE mode. I provide this so you will see why.

The 210A voltage is applied to the voltage divider resistors, R15 and R16, both 56K in series to ground resulting in a total resistance of 112K ohms (56K x 2 = 112K). The total current flowing through R15 and R16 is ".00228 amps" (254 / 112000 = .00228) or "2.28ma". The voltage drop across R15 is approximately +127.68VDC (E = I x R or .00228 x 56000 = 127.68). This is the final tube screen voltage with the MODE switch set to TUNE. This also will be the final tube screen voltage in USB, LSB, and CW modes "IF" the Rectifier Unit "SG2" and "TUNE" wires have been switched and is very very close to what you are seeing at the Rectifier Unit "SG1" and final unit "SG" terminals. That's why I ask you to measure the "SG1" voltage with the MODE switch set to TUNE. You don't need to measure the driver tube screen voltage nor the Rectifier Unit's "210A" voltage, we already know they are what they should be. We are only concerned with the "SG1" voltage with the MODE switch set to TUNE.

73
Mike W5RKL

On 1/23/2014 12:46 PM, Mike W5RKL wrote:
>
> Keith,
>
> Do this. Place the MODE switch to TUNE then measure the Rectifier
> Unit's "SG1" and final unit's "SG" terminal voltage? Are both of them
> now "+254VDC"? If so then I the Rectifier Unit's "SG2" and "TUNE" Mode
> switch wires have been "switched".
>
> 73
> Mike W5RKL
>
>
> On 1/23/2014 11:05 AM, wagstw46@... wrote:
>>
>> Keith:
>>
>>
>> I am apparently being too cryptic. I think you told us that you had

>> 256vdc on the screen grid of the Driver tube. If that is true then
>> should have approx 256 vdc on 210A at the Rect Board.
>>
>>
>> If you have 256 vdc on 210A then it tells you that your SG supply
>> rectifier and pi-filter are good.
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>>
>> So what I was suggesting is that you then make measurements in CW
>> Mode only along the entire path to the Screen Grids of the 6146 final
>> tubes from 210A on the Rect Board to Pin 3 of the 6146 final tube
>> sockets. .
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>> Assuming that 210A at Rect Board is good then the next place to
>> measure would be SG-2 where you should still read approx 256vdc thru
>> the Normally Closed contacts of RL-1 relay.
>>
>>
>> The next place to measure would be SG-1 on the Rect Board. Should
>> still read approx 256vdc at SG-1.
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>>
>> We need you to look at the schematic and measure the voltage at
>> transition or terminal points along the path and tell us what is the
>> first place you do not obtain 256 vdc and first see 120vdc.
>>
>>
>> Places where you could be losing the voltage would be a bad NC
>> contact at RL-1, shorted of greatly reduced resistance at R15/R16
>> Tune mode divider resistors. Bad mode switch contact etc. All places
>> where could have IR drop.
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>> I am probably not explaining it clearly.I dont know your experience
>> level. Do we need to take one reading at a time?
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>> find and fix.
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>> I have to get back to my bench as I have to finish a TS830 and just
>> got a TS530 that I need to start. I am sure Mike or others can talk
>> you through this .
>>
>>
>> Terry K9TW
>>
>

>

47119. Re: [TS-520_820_530_830] Gordon-n6wk - SK

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-23 19:23:06 UTC
From: Craig Roberts
Topic: 47117 Message: 47119

The news is truly sad.

I had just become acquainted with Gordon very recently after he offered some valuable and friendly advice concerning a troubleshooting problem and donated a scarce part needed to effect a repair. It was this act of true kindness and generosity to a virtual stranger that spoke volumes about the man.

My condolences to Gordon's family and to those of you who were, I am sure, among his many dear friends.

Craig
W3CRR
>

47120. Re: [TS-520_820_530_830] Gordon-n6wk - SK

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-23 19:46:41 UTC
From: chris meyer
Topic: 47117 Message: 47120

I just realized that Gordon lived only 2 miles from my home, in Fullerton, CA. His website was my bible for the Kenwood TS180/830's. I hope it stays it stays up. If it needs a sponsor let me know.

Chris Meyer
W3KYL

From: Joseph Stiles <stilesjoseph@...>
To: "TS-520_820_530_830@yahoogroups.com" <TS-520_820_530_830@yahoogroups.com>
Sent: Thursday, January 23, 2014 10:54 AM
Subject: [TS-520_820_530_830] Gordon-n6wk - SK

Greeting Group,

It's with a heavy heart and sadness that I need to tell you about the passing of one of this groups
long time members & past moderator:

Gordon-N6WK, went SK on January 1, 2014 after some medical problems.

For those that are new to the group, you don't know what you missed. But, Gordon
maintained: N6WK.com an excellent repository of information. Along with being an
"Elmer," he is, and will always remain a great guy.

73 Gordon!

Go here for more info: http://www.legacy.com/guestbooks/pressconnects/guestbook.aspx?n=gordon-benjamin&pid=168892326&cid=full#sthash.I320BcEJ.QRNzGJLH.dpbs

73 Joe
WB7UQU
Kenwood TS-520_820_530_830 yahoo group Co-owner

47121. RE: TS830 No TX, RX down; A common problem?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-23 19:47:48 UTC
From: <wagstw46@...>
Topic: 47115 Message: 47121

Jan

I am not sure what thread you are referring too? Last I knew you were working on the AVR board. Are you saying that after cleaning the bandswitch contacts you have no RF output on any band and your receive sensitivity is down on all bands? Not very practical to clean bandswitch contacts in place. Also need to measure the resistance or IR mv drop across each contact to see if you did any good. Almost never bandswitch problem when all bands are low or missing.

I usually repair the receiver 1st. I assume you have all the required low voltage supplies (12 vdc regulated, 9vdc regulated, and RF-1 3.6vdc (AGC and ALC bus reference voltage).

I usually start on 14.2mhz (middle of the band range and where KW provided the RX and TX level diagram values in the service manual). You can do a quick check and use the Marker signal and see what S meter readings are on all bands with Drive Control peaked at 1200. Should all be very close to or slightly more than S9 on each band. If lower than that I would start by doing coil pack alignment. If very low or non-existent then may have a failure in the front end. (L41 and/or Q1)

If all bands are very low or no receive the most common problem is ESD (shot of nearby lightning) or accidental transmit RF burning up L41 ant step up transformer and sometimes Q1 RF amp.

You can inject 8.830mhz RIF at output of RF board TP-2 and if good loud tone and S-meter indication you know the IF chain, product detector, and audio are all good and problem is on the RF board (or interconnecting leads and molex connectors) .

Can just use RF sig gen and work from SO-239 or work back wards. Easy to get on the wiper of S1-2 and inject and if good Rx and S-meter you know Q1 RF amp is not hurt and problem is likely L41. If inject at TP-1 and no RX and inject at S1-2 and have RX almost certainly bad L41. On occaision can have bad BCB filter with L1 shorted to ground shunting rx signals but not often.

As far as low or no TX RF output on all bands it is not likely bad or dirty bandswitch contacts.

I would start by doing Driver stage test to prove have good RF drive available (need approx 47 volts at 6146 control grids for full ALC indication). Do the Driver stage test with SG switch off. CW mode. Drive control at 1200 and CAR level pot at 1200. Meter in ALC. Flip to Send and peak Drive control. If meter pegs FSD simply back down the CAR level. Repeat on each band with VFO around 200. If no ALC indication increase CAR to full clockwise and repeat. If the Driver stage is good should be able to get FSD on all bands and it should hold there and not drift off with rig keyed. Let Driver tube rest between each band as it is running Class A at max plate current so will get pretty hot during this test.

If you have no ALC indication on any band with the Driver test then I would break out the RF millivolt meter or O-scope and run TX Level diagrams starting with the TIF signal. Then move on to the output of the TX Mixer at TP-4 and then control grids of the finals. Where signal is lost then take DC voltages at the active device and make sure you have the necessary LO signals (at TX Mixer need Het and approx 1 volt of VCO as the LO).

Troubleshooting no RF output or low RF output is one of easier problems to troubleshoot especially if low or missing on all bands.

This is a lot to cover and as I say I almost always get the receiver going first and then move on to transmitter.

Terry K9TW

47122. RE: Advice needed on how to replace the PLL circuit board of a TS820

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-23 19:50:49 UTC
From: Prof. Arnaldo Coro Antich
Topic: 47122 Message: 47122

Dear amigos:
Thanks to the kind gesture of a friend I received today
two circuit boards removed from a TS820 that was in
storage for some time.
My transceiver's PLL stopped working, making the rig
useless.
I now have a replacement unit ready to be installed so
it would be much appreciated to receive information
about the correct procedure to remove the bad PLL
board and installing the replacement.
73 and DX
If long you can answer off the list to
arnaldo.coro@...

Arnie Coro
CO2KK
IARU Region II Area C
Emergency Coordinator

47123. Re: [TS-520_820_530_830] TS830S No Output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-23 19:50:51 UTC
From: <keith.hutt@...>
Topic: 47087 Message: 47123

Mike
Mode Switch to tune

Rectifier Unit SG1 +124VDC

Final Unit SG +124 VDC

Keith G0TSH

47124. Re: [TS-520_820_530_830] Gordon-n6wk - SK

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-23 19:53:53 UTC
From: NA6XR
Topic: 47117 Message: 47124

I think you should contact the Fullerton Radio club and see if they want to take it over

73's DE NA6XR Otis McCoy

On Jan 23, 2014, at 11:46 AM, chris meyer <chrismeyer100@sbcglobal.net mailto:chrismeyer100@sbcglobal.net> wrote:

I just realized that Gordon lived only 2 miles from my home, in Fullerton, CA. His website was my bible for the Kenwood TS180/830's. I hope it stays it stays up. If it needs a sponsor let me know.

Chris Meyer
W3KYL

47125. Re: [TS-520_820_530_830] Gordon-n6wk - SK

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-23 20:37:15 UTC
From: Jeff Blaine
Topic: 47117 Message: 47125

Sorry to hear that. He and I sparred on quite a few topics but came to be friends in the last couple of years. He recently reworked a set of A76PA sockets for me which I was most grateful for.

A big loss to the community.

73/jeff/ac0c
www.ac0c.com
alpha-charlie-zero-charlie

From: Craig Roberts
Sent: Thursday, January 23, 2014 1:23 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830] Gordon-n6wk - SK

The news is truly sad.

I had just become acquainted with Gordon very recently after he offered some valuable and friendly advice concerning a troubleshooting problem and donated a scarce part needed to effect a repair. It was this act of true kindness and generosity to a virtual stranger that spoke volumes about the man.

My condolences to Gordon's family and to those of you who were, I am sure, among his many dear friends.

Craig
W3CRR

47126. RE: TS830 No TX, RX down; A common problem?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-23 21:16:38 UTC
From: <wagstw46@...>
Topic: 47115 Message: 47126

I had a TYPO.

At TX Mixer need TIF and VCO and not HET. Sorry about that.

On an O-scope TIF signal will not be a clean sine wave. Lots of harmonic action from VCO leak back. If your scope has filter capability may want to put in low pass mode. TIF should be approx 15mv rms or 42 P-P.

Output of TX Mixer (input to 12BY7A control grid) will be approx 2 to 3 rf volts depending on the band.

If you cant get on the Plate of the Driver tube you can get on the small plates of VC-3 top solder lug. Should see approx 58 to 60 rf volts. This is just after C29 .01 blocking/coupling cap.

At control grids of finals should see approx 47 to 49 RF volts. Should have approx -60vdc bias offset for max ALC indication.

Terry K9TW

47127. Re: [TS-520_820_530_830] Gordon-n6wk - SK

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-23 21:34:36 UTC
From: W2FID
Topic: 47117 Message: 47127

THIS HOBBY OF OURS, AND ESPECIALLY THIS GROUP HAVE LOST A GOOD FRIEND OF AMATUER RADIO. ALWAYS WILLING TO HELP OTHERS, NEVER TOO BUSY TO RESEARCH SOLUTIONS FOR PROBLEMS MEMBERS OF THIS GROUP HAD, AND ALL DONE WHILE NEVER LOOSING HIS "COOL" NO MATER WHAT QUESTIONS WERE POSTED FOR ANSWERS.
HIS CONTRIBUTIONS TO THIS GROUP WILL BE MISSED.
73 GORDON

MARSHALL
W2FID

From: Joseph Stiles <stilesjoseph@...>
To: "TS-520_820_530_830@yahoogroups.com" <TS-520_820_530_830@yahoogroups.com>
Sent: Thursday, January 23, 2014 1:54 PM
Subject: [TS-520_820_530_830] Gordon-n6wk - SK

Greeting Group,

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"Elmer," he is, and will always remain a great guy.

73 Gordon!

Go here for more info: http://www.legacy.com/guestbooks/pressconnects/guestbook.aspx?n=gordon-benjamin&pid=168892326&cid=full#sthash.I320BcEJ.QRNzGJLH.dpbs

73 Joe
WB7UQU
Kenwood TS-520_820_530_830 yahoo group Co-owner

47128. TS-520S Low Drive on Higher Bands

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-23 21:15:29 UTC
From: Byron Tatum
Topic: 47128 Message: 47128

Hello-

I am going through a nice TS-520S and reached the RF Alignment steps. I have good finals in it and driver tube. The receiver is really working well and the receiver RF board alignment went fine. I was catching the driver coils, as I always do when doing a TS-520S alignment, while I was peaking the receiver coils. I cannot develop any ALC voltage on 15 or 10 meters, I get plenty of ALC on 160 and 80, a little less on 40 and I can definitely tell I am having to struggle 20 meters. I can get about 50 watts output on 15 meters and around 30 watts output on 10 meters, but no ALC voltage showing in CW mode. I did notice, at the instant the unit is placed in SEND in the CW mode there will be a short spike upward of ALC on the meter.

I thought I would ask before I go any further - am studying the operating and service manuals. I noticed there are a number of coils/RF transformers used in TX mode, located on RF and IF boards, that are not covered in the alignment instructions.

Thanks all, Byron WA5THJ

47129. FS- Nice 1.8 Khz B/W SSB Filter for TS-520(S)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-23 21:24:42 UTC
From: Byron Tatum
Topic: 47129 Message: 47129

Hello-

I removed a nice 1.8 KHz bandwidth SSB filter from a TS-520S, it is made by TAMA Electronics in Tokyo. The filter worked fine, it is just a little too tight for my liking for casual ragchewing. I replaced it with the Trio YG3395-S standard SSB filter that I had as a spare. The carrier osc's required only a very slight touch-up, so that tells me the TAMA filter has not shifted or became defective.

I would like to trade this filter for a 0.5 KHz B/W CW filter for the TS-520(S), YG3395-CW or equiv.

Thanks, Byron WA5THJ

47130. Re: [TS-520_820_530_830] TS830S No Output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-23 22:27:06 UTC
From: Mike W5RKL
Topic: 47087 Message: 47130

Keith,

What did you say the voltage at the Rectifier Unit's "SG2" terminal is, not the SG1 terminal? Is it the same the SG1 terminal's +124VDC?

Also have you check the Rectifier Unit's connection from the 210A through the Rectifier Unit's relay RL1 to the Rectifier Unit's "SG2" terminal?

I can't see any possible way, unless there's been some wiring/circuit board changes on the Rectifier Unit, where the SG2 and SG1 voltages are not +254VDC with the MODE switch set to USB, LSB, or CW modes! I can understand the SG1 voltage reducing by 50% with the MODE switch set to TUNE but not in USB, LSB, and CW modes!

73
Mike W5RKL

On 1/23/2014 1:50 PM, keith.hutt@... wrote:
>
> Mike
>
> Mode Switch to tune
>
>
> Rectifier Unit SG1 +124VDC
>
>
> Final Unit SG +124 VDC
>
>
> Keith G0TSH
>
>
>

47131. Re: [TS-520_820_530_830] TS830S No Output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 02:19:26 UTC
From: <wagstw46@...>
Topic: 47087 Message: 47131

Mike:

I was trying to get him to read the IR drops as he is able to power the circuit instead of taking resistance readings. I struggled teaching this to industrial electricians who thought you had to get everything dead and use an ohm meter to tell if a contact was open or closed and how well closed. .

I assumed radio was working correctly and then failed. I did not think that he or previous owner had rewired the mode switch. Stranger things do happen.

At this point assuming that what he reports is accurate and the radio was on my bench I think I would read IR drops from 210A to SG2, SG2 to SG1, SG1 to PD2 and so on.

A real puzzle and something that could probably find in minutes if could get hands on it.

This media can be a blessing and a curse!

Terry K9TW

47132. RE: TS-520S Low Drive on Higher Bands

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 02:53:03 UTC
From: <wagstw46@...>
Topic: 47128 Message: 47132

I assume you have tried with the CAR level pot full CW?

Do you have an RF probe and VTVM or an O-scope?

If so, load to maximum on 15 meters. Then measure the RF drive voltage at MD on RF board. It should be approx 2 rms rf volts or 5.8 P-P. This is the output of the Transmit Mixer.

You need a multi diode probe to measure plate of Driver tube and control grids of the finals.

If you want to see normal TX Levels then run them on 20 meters and record them so you have base line for reference. Start with TIF signal at TP-2 and work toward the finals control grids. Will need an O-scope to measure TIF as it is too low for RF probe. Will be around 200mv to 250mv.

ALC indication is a result of ua grid current flowing from the 6146 control grids back to the -C supply when the positive going half of the RF drive voltage exceeds the operating bias voltage.. In a TS-520S you need approx 46 rms rf volts on the control grids of finals for full scale ALC indication. Assuming approx -55vdc operating bias for 60 resting plate current then any RF drive less than approx 39 rf volts means no ALC indication. You will have RF output power just no ALC indication.

You cannot measure the RF drive at Plate of Driver tube or Finals control grids with a standard single diode RF probe as it will exceed the peak reverse voltage rating of the diode and burn it out. This is why Heathkit made the PK-3 probe with 3 diodes in series to allow just such testing.

Give an example of coils used in TX mode that are not adjusted in the alignment procedure. Only ones you may not be doing that I am aware of are band pass filters which require Sweep generator which average ham may not have.

Terry K9TW

47133. RE: TS830S Unstable on 10M - no output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 03:14:19 UTC
From: <dlacroix@...>
Topic: 46900 Message: 47133

Thanks for the help Terry. I sent off to Ebay for a driver tube but that didn't help. Have the CAR fully CW and no ALC. Tried adjusting the drive coil and it didn't help either. Tried cleaning the bandswitch too.

47134. Re: [TS-520_820_530_830] RE: Advice needed on how to replace the PLL circuit board of a TS820

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 04:48:07 UTC
From: Joseph Stiles
Topic: 47122 Message: 47134

hola Arnie,

It is not hard. Power OFF and rig un-plugged. Remove top and bottom cover. There are 3 screws on the right side of the chassis and two on the inside. Move aside the wire harness..you will see them. I find it easier to also remove the AF-AVR & the Relay Unit. It makes is a little easier to get the PLL Ass'y unit out. There are 5 connectors to the PLL unit..mark them for position..for easier replacement...but after many years of being in the same position...that may not be a problem. It is up to you whether you want to take apart your replacement unit and clean the between board connector pins. Reconnect all connectors...etc. Check for proper operation, before you button it all back up. You may need to check/adjust the unit per Service Manual,
page 52, section 5-2.

Remember, you will be working around the bottom of the HV capacitors...make sure they are discharged/bled off!!

Also, I try and listen to your show and other Radio Havana programs on shortwave when ever I can.

73 Joe
WB7UQU

On Thursday, January 23, 2014 5:28 PM, Prof. Arnaldo Coro Antich <coro@enet.cu> wrote:

>Dear amigos:
>Thanks to the kind gesture of a friend I received today
>two circuit boards removed from a TS820 that was in
>storage for some time.
>My transceiver's PLL stopped working, making the rig
>useless.
>I now have a replacement unit ready to be installed so
>it would be much appreciated to receive information
>about the correct procedure to remove the bad PLL
>board and installing the replacement.
>73 and DX
>If long you can answer off the list to
>arnaldo.coro@...
>
>Arnie Coro
>CO2KK
>IARU Region II Area C
>Emergency Coordinator
>
>
>

>
>

47135. RE: [TS-520_820_530_830] Gordon-n6wk - SK

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 07:39:17 UTC
From: fpath fpath
Topic: 47117 Message: 47135

Joe,

Thank you for advising, was not something I din't wanted to hear, but at least he is no longer suffering. He was a great friend and person. We are all better for having him in our radios and lives.

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: stilesjoseph@...
Date: Thu, 23 Jan 2014 10:54:30 -0800
Subject: [TS-520_820_530_830] Gordon-n6wk - SK

Greeting Group,

It's with a heavy heart and sadness that I need to tell you about the passing of one of this groups
long time members & past moderator:

Gordon-N6WK, went SK on January 1, 2014 after some medical problems.

For those that are new to the group, you don't know what you missed. But, Gordon maintained: N6WK.com an excellent repository of information. Along with being an "Elmer," he is, and will always remain a great guy.

73 Gordon!

Go here for more info: http://www.legacy.com/guestbooks/pressconnects/guestbook.aspx?n=gordon-benjamin&pid=168892326&cid=full#sthash.I320BcEJ.QRNzGJLH.dpbs

73 Joe
WB7UQU
Kenwood TS-520_820_530_830 yahoo group Co-owner

47136. RE: [TS-520_820_530_830] Gordon-n6wk - SK

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 08:19:24 UTC
From: fpath fpath
Topic: 47117 Message: 47136

Sorry guys, was menat to read. Wasn't something I wanted to hear

Dave

VK5PDL

To: ts-520_820_530_830@yahoogroups.com
From: fpath@...
Date: Fri, 24 Jan 2014 18:09:17 +1030
Subject: RE: [TS-520_820_530_830] Gordon-n6wk - SK

Joe,

Thank you for advising, was not something I din't wanted to hear, but at least he is no longer suffering. He was a great friend and person. We are all better for having him in our radios and lives.

Dave
VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: stilesjoseph@...
Date: Thu, 23 Jan 2014 10:54:30 -0800
Subject: [TS-520_820_530_830] Gordon-n6wk - SK

Greeting Group,

It's with a heavy heart and sadness that I need to tell you about the passing of one of this groups
long time members & past moderator:

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73 Gordon!

Go here for more info: http://www.legacy.com/guestbooks/pressconnects/guestbook.aspx?n=gordon-benjamin&pid=168892326&cid=full#sthash.I320BcEJ.QRNzGJLH.dpbs

73 Joe
WB7UQU
Kenwood TS-520_820_530_830 yahoo group Co-owner

47137. Re: [TS-520_820_530_830] RE: TS830 No TX, RX down; A common problem?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 14:23:47 UTC
From: Jan Servaites
Topic: 47115 Message: 47137

Okay thanks for your help & suggestions, Terry,
This is take some time to troubleshoot the 830, I will get back with you later.
The 530's AF board repair is on hold for now.
Jan N8CBX

wagstw46@... wrote:

>
>
> I had a TYPO.
>
>
> At TX Mixer need TIF and VCO and not HET. Sorry about that.
>
>
> On an O-scope TIF signal will not be a clean sine wave. Lots of
> harmonic action from VCO leak back. If your scope has filter
> capability may want to put in low pass mode. TIF should be approx 15mv
> rms or 42 P-P.
>
>
> Output of TX Mixer (input to 12BY7A control grid) will be approx 2 to
> 3 rf volts depending on the band.
>
>
> If you cant get on the Plate of the Driver tube you can get on the
> small plates of VC-3 top solder lug. Should see approx 58 to 60 rf
> volts. This is just after C29 .01 blocking/coupling cap.
>
>
> At control grids of finals should see approx 47 to 49 RF volts. Should
> have approx -60vdc bias offset for max ALC indication.
>
>
> Terry K9TW
>
>

47138. Re: [TS-520_820_530_830] TS830S No Output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 12:10:38 UTC
From: <keith.hutt@...>
Topic: 47087 Message: 47138

Mike

Voltage at SG2 is +253VDC

Many thanks for the help

Keith G0TSH

47139. Re: [TS-520_820_530_830] TS830S No Output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 14:56:47 UTC
From: <w5rkl@...>
Topic: 47087 Message: 47139

Keith,

Has there been any repairs performed on the Rectifier Unit and/or the Mode switch, either by your or a previous owner that you are aware of?

Has this been a problem from the time you purchased the 830?

There is no reason for the SG1 voltage to be 50% less than the SG2 with the Mode switch set to USB, LSB, or CW. The only component between the SG2 and SG1 terminals is the "Mode" switch. The only time the SG1 voltage should be 50% less is with the Mode switch set to TUNE. This is clearly shown on the 830 schematic which you should be using to troubleshoot this problem.

73
Mike W5RKL

47140. speaker grille cloth?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 17:06:19 UTC
From: Craig Roberts
Topic: 47140 Message: 47140

Now HERE's an esoteric question the answer to which requires no fiddling with exotic test gear:

Has anyone found a suitable replacement for the internal speaker grille cloth found under the lid of our hybrids?

In repainting my KW cases thus far, I been able to successfully remove, clean and replace the existing grille cloth. However, the cloth on my latest 830 is so thoroughly and robustly glued that I am afraid it will not survive removal intact. I would like to find a substitute material that at least resembles the original. I have considered black pantyhose mesh perhaps sprayed with clear lacquer to stiffen it, but that's far different than the ultra thin felt or whatever that Kenwood employed.

Any ideas?

Thanks and 73,

Craig
W3CRR

47141. Re: [TS-520_820_530_830] speaker grille cloth?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 17:09:44 UTC
From: W LEWIS
Topic: 47140 Message: 47141

Most fabric stores have black mesh or gauze type materials that will work.
Butch Lewis
KØPSA

From: Craig Roberts <crgrbrts@...>
To: TS-520_820_530_830@yahoogroups.com
Sent: Friday, January 24, 2014 11:06 AM
Subject: [TS-520_820_530_830] speaker grille cloth?

Now HERE's an esoteric question the answer to which requires no fiddling with exotic test gear:

Has anyone found a suitable replacement for the internal speaker grille cloth found under the lid of our hybrids?

In repainting my KW cases thus far, I been able to successfully remove, clean and replace the existing grille cloth. However, the cloth on my latest 830 is so thoroughly and robustly glued that I am afraid it will not survive removal intact. I would like to find a substitute material that at least resembles the original. I have considered black pantyhose mesh perhaps sprayed with clear lacquer to stiffen it, but that's far different than the ultra thin felt or whatever that Kenwood employed.

Any ideas?

Thanks and 73,

Craig
W3CRR

47142. Re: [TS-520_820_530_830] TS830S No Output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 17:47:27 UTC
From: Mike W5RKL
Topic: 47087 Message: 47142

Keith,

There is nothing wrong with the Rectifier Unit's 210A supply so don't mess with it!!

I'm still puzzled why the Rectifier Unit's 210A terminal has +254VDC on it but the Rectifier Unit's SG2 terminal has +124VDC. The only component between the Rectifier Unit's 210A terminal and the Rectifier Unit's SG2 terminals is the RL1 relay. Therefore, perform the following voltage check with your DC volt meter.

Connect your DC volt meter's RED meter lead to the Rectifier Unit's 210A terminal and the DC volt meter's BLACK meter lead to the Rectifier Unit's SG2 terminal and tell me what the meter displays.

73
Mike W5RKL

On 1/24/2014 6:10 AM, keith.hutt@... wrote:
>
> Mike
>
>
> Voltage at SG2 is +253VDC
>
>
> Many thanks for the help
>
>
> Keith G0TSH
>
>

47143. Re: [TS-520_820_530_830] speaker grille cloth?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 18:32:40 UTC
From: Ken Webb
Topic: 47140 Message: 47143

Landscape fabric may work also.
Ken
WB4EJZ

Sent from Yahoo Mail on Android

47144. Re: [TS-520_820_530_830] speaker grille cloth?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 18:37:46 UTC
From: Jan Servaites
Topic: 47140 Message: 47144

MCM has it
http://www.mcmelectronics.com/product/50-946
and Parts Express
http://www.parts-express.com/Search.aspx?keyword=speaker%20cloth&sitesearch=true
<http://www.parts-express.com/Search.aspx?keyword=speaker%20cloth&sitesearch=true>
Jan N8CBX

47145. Re: [TS-520_820_530_830] speaker grille cloth?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 18:39:36 UTC
From: Ken Winterling
Topic: 47140 Message: 47145

I believe spraying any fine-meshed fabric with a stiffener will reduce, if not eliminate, its acoustic transparency.

As Butch, K0PSA, suggests, a fabric store should have something suitable for such a small area. I used a thin black fabric years ago in front of a perforated metal grill to improve the appearance.

Ken
WA2LBI

On Fri, Jan 24, 2014 at 12:09 PM, W LEWIS <nscb56a@...> wrote:

>
>
> Most fabric stores have black mesh or gauze type materials that will work.
> Butch Lewis
> KØPSA
>
>
> ----------
> *From:* Craig Roberts <crgrbrts@...>
> *To:* TS-520_820_530_830@yahoogroups.com
> *Sent:* Friday, January 24, 2014 11:06 AM
> *Subject:* [TS-520_820_530_830] speaker grille cloth?
>
>
> Now HERE's an esoteric question the answer to which requires no fiddling
> with exotic test gear:
>
> Has anyone found a suitable replacement for the internal speaker grille
> cloth found under the lid of our hybrids?
>
> In repainting my KW cases thus far, I been able to successfully remove,
> clean and replace the existing grille cloth. However, the cloth on my
> latest 830 is so thoroughly and robustly glued that I am afraid it will
> not survive removal intact. I would like to find a substitute material
> that at least resembles the original. I have considered black pantyhose
> mesh perhaps sprayed with clear lacquer to stiffen it, but that's far
> different than the ultra thin felt or whatever that Kenwood employed.
>
> Any ideas?
>
> Thanks and 73,
>
> Craig
> W3CRR

>

47146. Re: [TS-520_820_530_830] speaker grille cloth?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 19:02:28 UTC
From: Craig Roberts
Topic: 47140 Message: 47146

> /"I believe spraying any fine-meshed fabric with a stiffener will
> reduce, if not eliminate, its acoustic transparency."/

True enough,Ken. But, it'd give Mike and Terry a baffling
troubleshooting problem when someone complained of "muffled audio."

73,
Craig
W3CRR

47147. Re: speaker grille cloth?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 17:40:49 UTC
From: Stephen
Topic: 47140 Message: 47147

http://www.parts-express.com/cat/speaker-grill-cloth-fabric/319

http://www.joann.com/utility-fabric-black-speaker-cloth/3514023.html

http://www.etsy.com/shop/SpeakerFabricSupply?ref=l2-shopheader-name

Also try looking at Amazon and Ebay. I did a recover for a speaker for my sons large guitar cabinet from one of these. Can't remember who. They may send you a free sample as your needs are so small. Google speaker cloth for more choices.
Hope this helps?
Stephen, KG0K

--- In TS-520_820_530_830@yahoogroups.com, Craig Roberts <crgrbrts@...> wrote:
>
> Now HERE's an esoteric question the answer to which requires no fiddling
> with exotic test gear:
>
> Has anyone found a suitable replacement for the internal speaker grille
> cloth found under the lid of our hybrids?
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> that at least resembles the original. I have considered black pantyhose
> mesh perhaps sprayed with clear lacquer to stiffen it, but that's far
> different than the ultra thin felt or whatever that Kenwood employed.
>
> Any ideas?
>
> Thanks and 73,
>
> Craig
> W3CRR
>

47148. Re: [TS-520_820_530_830] Gordon-n6wk - SK

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 18:22:20 UTC
From: David Yarbrough
Topic: 47117 Message: 47148

I'm really sorry to hear this. Since I've had my TS-530SP Gordon's site has been my manual for the rig, in fact I don't think I'd ever even downloaded it but just kept opening the file off his site each time I needed it.

It's a shame to lose such a great resource and contributor to the community.

Hopefully his site will stay up but I know it can be trying for a family to deal with the all details that result from the loss of a loved one. Gordon's archive of Kenwood manuals is invaluable to the community. I don't have a good website to host such content on myself but I have made an archive of Gordon's files and am sharing it here:

https://docs.google.com/file/d/0B_nx4oLYGQ_KM3RjazV2UF9SRlU/
https://docs.google.com/file/d/0B_nx4oLYGQ_KM3RjazV2UF9SRlU/

If others in the community would please download a copy to help preserve his work that would probably be good. The total zip file is about 905mb.

Thanks.

73 David

KG7CQI

47149. Re: [TS-520_820_530_830] speaker grille cloth?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 19:21:52 UTC
From: Joseph Stiles
Topic: 47140 Message: 47149

Craig,

 If you have not already, visit a local fabric store. They have LOTS of various fabrics that will meet your needs, or any good "arts & crafts store." My lovely XYL..took a sample and found an almost exact match. It was just a bit thicker..but just as porous as the original. Did not seem to muffle the sound...but I use headphones most of the time anyway If you are married...take the XYL...she'll think your the best!

73 Joe
WB7UQU

On Friday, January 24, 2014 10:40 AM, Ken Winterling <wa2lbi@...> wrote:

>I believe spraying any fine-meshed fabric with a stiffener will reduce, if not eliminate, its acoustic transparency.
>
>
>As Butch, K0PSA, suggests, a fabric store should have something suitable for such a small area. I used a thin black fabric years ago in front of a perforated metal grill to improve the appearance.
>
>Ken
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>
>
>On Fri, Jan 24, 2014 at 12:09 PM, W LEWIS <nscb56a@...> wrote:
>
>
>>
>>Most fabric stores have black mesh or gauze type materials that will work.
>>Butch Lewis
>>KØPSA
>>
>>
>>
>>
>>
>>
>>_____
>> From: Craig Roberts <crgrbrts@...t>
>>To: TS-520_820_530_830@yahoogroups.com
>>Sent: Friday, January 24, 2014 11:06 AM
>>Subject: [TS-520_820_530_830] speaker grille cloth?
>>
>>
>>

>>
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>>that at least resembles the original. I have considered black pantyhose
>>mesh perhaps sprayed with clear lacquer to stiffen it, but that's far
>>different than the ultra thin felt or whatever that Kenwood employed.
>>
>>Any ideas?
>>
>>Thanks and 73,
>>
>>Craig
>>W3CRR
>>
>
>
>
>

47150. Re: [TS-520_820_530_830] speaker grille cloth?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 19:28:28 UTC
From: William Houghton
Topic: 47140 Message: 47150

I had a robustly glued one on an Icom-735. WD-40 on a q-tip softened the adhesive. I was able to easily remove it by sliding the blade of an exacto knife under it and using the flat of the blade to lift it up.

After it was removed I washed it dish washing soap and water and dried it between two paper towels.

From: Ken Webb <synovial_98@...>
To: "TS-520_820_530_830@yahoogroups.com" <TS-520_820_530_830@yahoogroups.com>
Sent: Friday, January 24, 2014 10:32 AM
Subject: Re: [TS-520_820_530_830] speaker grille cloth?

Landscape fabric may work also.
Ken
WB4EJZ
Sent from Yahoo Mail on Android

From: W LEWIS <nscb56a@...>;
To: TS-520_820_530_830@yahoogroups.com <TS-520_820_530_830@yahoogroups.com>;
Subject: Re: [TS-520_820_530_830] speaker grille cloth?
Sent: Fri, Jan 24, 2014 5:09:44 PM

Most fabric stores have black mesh or gauze type materials that will work.
Butch Lewis
KØPSA

From: Craig Roberts <crgrbrts@...>
To: TS-520_820_530_830@yahoogroups.com
Sent: Friday, January 24, 2014 11:06 AM
Subject: [TS-520_820_530_830] speaker grille cloth?

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Any ideas?

Thanks and 73,

Craig
W3CRR

47151. Re: [TS-520_820_530_830] RE: TS830S Unstable on 10M - no output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 16:13:24 UTC
From: Michael Sylvester
Topic: 46900 Message: 47151

Might try to get some verified tubes from K4EAA.com.
I've had 60-80% misery with eBay tubes. I don't do that any more.....
The best batch I bought off eBay was 10 tubes, 3 don't do dittly.
They are all NOS I believe but 50 years does strange things.
Heck, just look at me!!

"Idleness is Corrosions Workshop"
(I like that, I hope it's OK that I'm going to use it.)
Michael///KD0WSJ

47152. Re: [TS-520_820_530_830] Gordon-n6wk - SK

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 19:40:44 UTC
From: Mark Gilger
Topic: 47117 Message: 47152

I'm investigating putting all of Gordon's
documents on my site. Depends if there is enough space. I should know shortly.

I had a lot of links that took people directly to
his site for manuals, etc. that soon might not be able to do that.

http://wb4hfn.com/KENWOOD/KenwoodHomePage.htm

I suspect there will be enough room, just need
some time to send files to administrator for
posting. I'll have more on that later.

Mark, WB0IQK

At 01:22 PM 1/24/2014, David Yarbrough wrote:
>
>
>I'm really sorry to hear this.Â Since I've had
>my TS-530SP Gordon's site has been my manual for
>the rig, in fact I don't think I'd ever even
>downloaded it but just kept opening the file off
>his site each time I needed it.
>
>It's a shame to lose such a great resource and contributor to the community.
>
>Hopefully his site will stay up but I know it
>can be trying for a family to deal with the all
>details that result from the loss of a loved
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>
><https://docs.google.com/file/d/0B_nx4oLYGQ_KM3RjazV2UF9SRlU/>https://docs.google.com/file/d/0B_nx4oLYGQ_KM3RjazV2UF9SRlU/
>
>If others in the community would please download
>a copy to help preserve his work that would
>probably be good.Â The total zip file is about 905mb.
>
>Thanks.
>
>73 David
>KG7CQI
>
>

>
>
>
>

47153. Re: [TS-520_820_530_830] speaker grille cloth?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 20:28:12 UTC
From: Craig Roberts
Topic: 47140 Message: 47153

Good advice, Joe.

To your point, my XYL was pleased some months ago when we visited Jo Ann Fabrics to select a small quantity of organza silk. I was in need of this particular fabric to fashion internal windscreens for my homebrew ribbon microphones. The downside was the fact that my intended five minute trip became a two hour-plus affair as materials for new curtains and re-upholstery jobs were being considered. This is nearly as deadly as a ladies' shoe shopping excursion through a mega-mall.

Still... I'll do it!

73,

Craig
W3CRR

47154. Re: [TS-520_820_530_830] Gordon-n6wk - SK

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 20:52:52 UTC
From: Wes Will
Topic: 47117 Message: 47154

On 01/24/2014 01:40 PM, Mark Gilger wrote:
>
>
> I'm investigating putting all of Gordon's documents on my site. Depends
> if there is enough space. I should know shortly.
>

I can host anything up to about a hundred gigabytes without any changes needed. More than that will require that I actually shut down long enough to mount this terabyte hard disk in my server rack....

If there is any desire for a mirror of his site, and I think with a suitable memorial / eulogy at the top aimed at the people he helped on this list (and perhaps in Ham radio in general) at the top.

If there is interest in putting it up on my ftp/web/etc server, just say so.

--
Wes Will
N9KDY
SysAdmin
Paid Professional Paranoiac
Computer Geek

47155. Re: [TS-520_820_530_830] speaker grille cloth?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 21:01:54 UTC
From: Craig Roberts
Topic: 47140 Message: 47155

Many thanks for all the suggestions. Good stuff.

I restore old broadcast receivers from the '20's, '30s and '40s so I am very familiar with speaker cloth, especially the reproduction varieties offered to we antique radio buffs. As you know, the grille material used by Kenwood is, as Butch pointed out, a stiffened gauze-like material rather than speaker cloth as such.

I will, as encouraged, haunt such venues as fabric shops and arts and crafts stores until I find what I am looking for. I'll pass along the particulars. Of course, if Bill Houghton's WD-40 on a Q-Tip removal method works, I will be spared the trouble.

Thanks again and 73,

Craig
W3CRR

47156. Re: [TS-520_820_530_830] speaker grille cloth?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 21:52:31 UTC
From: James Scribner
Topic: 47140 Message: 47156

Craig,
Try local auto dealer. I know the one I retired from at any time would have
many 6x9's to be returned on warranty. Most have nice material on them that
can be cut off. Did this myself recently, just went by and hit up ole
buddies in the parts warehouse, free is nice too :>D
Jim
W5SWM

On Fri, Jan 24, 2014 at 3:01 PM, Craig Roberts <crgrbrts@...> wrote:

>
>
> Many thanks for all the suggestions. Good stuff.
>
> I restore old broadcast receivers from the '20's, '30s and '40s so I am
> very familiar with speaker cloth, especially the reproduction varieties
> offered to we antique radio buffs. As you know, the grille material used
> by Kenwood is, as Butch pointed out, a stiffened gauze-like material rather
> than speaker cloth as such.
>
> I will, as encouraged, haunt such venues as fabric shops and arts and
> crafts stores until I find what I am looking for. I'll pass along the
> particulars. Of course, if Bill Houghton's WD-40 on a Q-Tip removal method
> works, I will be spared the trouble.
>
> Thanks again and 73,
>
> Craig
> W3CRR
>
>
>

47157. Re: speaker grille cloth?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 21:56:09 UTC
From: paw_paw44036
Topic: 47140 Message: 47157

Guitar center can order true speaker cloth in many colors. Bill wd8osj.

Sent via the Samsung GALAXY S®4, an AT&T 4G LTE smartphone

47158. Lack of drive to the finals in my 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 22:08:33 UTC
From: timothy mcmillin
Topic: 47158 Message: 47158

I purchased the TS830S 30 years ago. Just got back into ham radio. It has been in its original carton for that period of time and never used. Just put up an antenna, set up the transceiver. Receiver and associated functions perform flawlessly. When tuning up the transmitter, however, there is zero drive registering on the meter. There is current registering at the final amplifier tubes but that is it. I pulled the 12BY7A driver from my TS520 which is functioning and no luck.
Any thoughts about next steps/
Tim, @WA3GPU

47159. Re: [TS-520_820_530_830] Lack of drive to the finals in my 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 22:24:47 UTC
From: Mike W5RKL
Topic: 47158 Message: 47159

Tim,

You said

"There is current registering at the final amplifier tubes..."

Are you referring to the 60ma of idling current or that the final tube filaments are glowing?

73
Mike W5RKL

On 1/24/2014 4:08 PM, timothy mcmillin wrote:
> I purchased the TS830S 30 years ago. Just got back into ham radio. It
> has been in its original carton for that period of time and never
> used. Just put up an antenna, set up the transceiver. Receiver and
> associated functions perform flawlessly. When tuning up the
> transmitter, however, there is zero drive registering on the meter.
> There is current registering at the final amplifier tubes but that is
> it. I pulled the 12BY7A driver from my TS520 which is functioning and
> no luck.
> Any thoughts about next steps/
> Tim, @WA3GPU
>

47160. TR 3 Plate Choke

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 22:28:16 UTC
From: <wa8mcd@...>
Topic: 47160 Message: 47160

Does anyone know the value of the TR 3 Plate Choke or better yet have one they would part with?

Thanks Gary

47161. Re: [TS-520_820_530_830] Lack of drive to the finals in my 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 22:27:00 UTC
From: timothy mcmillin
Topic: 47158 Message: 47161

The idling current

On Fri, Jan 24, 2014 at 5:24 PM, Mike W5RKL <w5rkl@yahoo.com> wrote:

>
>
> Tim,
>
> You said
>
> "There is current registering at the final amplifier tubes..."
>
> Are you referring to the 60ma of idling current or that the final tube
> filaments are glowing?
>
> 73
> Mike W5RKL
>
> On 1/24/2014 4:08 PM, timothy mcmillin wrote:
>
>
> I purchased the TS830S 30 years ago. Just got back into ham radio. It
> has been in its original carton for that period of time and never used.
> Just put up an antenna, set up the transceiver. Receiver and associated
> functions perform flawlessly. When tuning up the transmitter, however,
> there is zero drive registering on the meter. There is current registering
> at the final amplifier tubes but that is it. I pulled the 12BY7A driver
> from my TS520 which is functioning and no luck.
> Any thoughts about next steps/
> Tim, @WA3GPU
>
>
>
>

47162. Re: [TS-520_820_530_830] Lack of drive to the finals in my 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 22:44:04 UTC
From: Mike W5RKL
Topic: 47158 Message: 47162

Tim,

You can tune the transmitter in CW mode but be warned that the final amplifier is operating at full power in CW mode. Set the meter to IP, connect the 830 to a 50 ohm dummy load, set the CAR control so it points between 9 and 10 o'clock, set the LOAD control fully CCW (knob pointing to 9 o'clock), Mode switch to CW, and flip the SEND switch UP. If you have a CW key plugged into the rear CW socket press the CW key and adjust the DRIVE control for a peak IP meter indication, otherwise if there is no CW key plugged into the CW socket, adjust the DRIVE control for a peak IP indication and quickly adjust the PLATE control for a dip in IP meter indication. If your dummy load has a watt meter then you should see RF indication. No watt meter, set the 830's meter switch to RF and you should see a rise above zero indicating RF is present at the antenna connector (SO-239). If this is what you see then I suspect resistors R15 and R16, both are 56K 1/2 watt, on the Rectifier Unit, have changed values to a point they are significantly out of tolerance, replace them.

73
Mike W5RKL

On 1/24/2014 4:27 PM, timothy mcmillin wrote:
> The idling current
>
>
> On Fri, Jan 24, 2014 at 5:24 PM, Mike W5RKL <w5rkl@...
> <mailto:w5rkl@...>> wrote:
>
> Tim,
>
> You said
>
> "There is current registering at the final amplifier tubes..."
>
> Are you referring to the 60ma of idling current or that the final
> tube filaments are glowing?
>
> 73
> Mike W5RKL
>
> On 1/24/2014 4:08 PM, timothy mcmillin wrote:
>> I purchased the TS830S 30 years ago. Just got back into ham
>> radio. It has been in its original carton for that period of time
>> and never used. Just put up an antenna, set up the transceiver.
>> Receiver and associated functions perform flawlessly. When tuning

>> up the transmitter, however, there is zero drive registering on
>> the meter. There is current registering at the final amplifier
>> tubes but that is it. I pulled the 12BY7A driver from my TS520
>> which is functioning and no luck.
>> Any thoughts about next steps/
>> Tim, @WA3GPU
>
>
>

47163. Re: [TS-520_820_530_830] Lack of drive to the finals in my 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 23:18:45 UTC
From: Jan Servaites
Topic: 47158 Message: 47163

If the radio has been out of service for "30 years" (wow), place heater sw to on and let it warm up for a few hours or most of the day, and then try to transmit again with low power setting. If nothing, let it cook some more.
Jan

timothy mcmillin wrote:

>
> I purchased the TS830S 30 years ago. Just got back into ham radio. It
> has been in its original carton for that period of time and never
> used. Just put up an antenna, set up the transceiver. Receiver and
> associated functions perform flawlessly. When tuning up the
> transmitter, however, there is zero drive registering on the meter.
> There is current registering at the final amplifier tubes but that is
> it. I pulled the 12BY7A driver from my TS520 which is functioning and
> no luck.
> Any thoughts about next steps/
> Tim, @WA3GPU
>

47164. Re: [TS-520_820_530_830] Lack of drive to the finals in my 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 22:58:38 UTC
From: Tim Mcmillin
Topic: 47158 Message: 47164

Thanks Mike
73
Tim

Sent from my iPhone

On 1/24/2014 4:27 PM, timothy mcmillin wrote:

The idling current

On Fri, Jan 24, 2014 at 5:24 PM, Mike W5RKL <w5rkl@yahoo.com mailto:w5rkl@yahoo.com> wrote:
Tim,

You said

"There is current registering at the final amplifier tubes..."

Are you referring to the 60ma of idling current or that the final tube filaments are glowing?

73
Mike W5RKL

47165. Re: [TS-520_820_530_830] Lack of drive to the finals in my 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 23:38:56 UTC
From: Michael Sylvester
Topic: 47158 Message: 47165

I'd change the relays, if none handy take a good luck at what you have.
Wait for more experienced advice too!!

"Soon Rivers Run with Red"
Michael///KD0WSJ

47166. Re: [TS-520_820_530_830] Lack of drive to the finals in my 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 23:42:43 UTC
From: Michael Sylvester
Topic: 47158 Message: 47166

Never heard of tuning that way Mike. Would that only apply to CW tuning or only in test situations or would that be a deviation from book tuning that has advantages? Explain please?

Michael///KD0WSJ

the above post edited for length, as it contained 3 prior msgs/posts - WB7UQU

On Friday, January 24, 2014 5:33 PM, Mike W5RKL wrote:

Tim,

You can tune the transmitter in CW mode but be warned that the final amplifier is operating at full power in CW mode. Set the meter to IP, connect the 830 to a 50 ohm dummy load, set the CAR control so it points between 9 and 10 o'clock, set the LOAD control fully CCW (knob pointing to 9 o'clock), Mode switch to CW, and flip the SEND switch UP. If you have a CW key plugged into the rear CW socket press the CW key and adjust the DRIVE control for a peak IP meter indication, otherwise if there is no CW key plugged into the CW socket, adjust the DRIVE control for a peak IP indication and quickly adjust the PLATE control for a dip in IP meter indication. If your dummy load has a watt meter then you should see RF indication. No watt meter, set the 830's meter switch to RF and you should see a rise above zero indicating RF is present at the antenna connector (SO-239). If this is what you see then I suspect resistors R15 and R16, both are 56K 1/2 watt, on the Rectifier Unit, have changed values to a point they are significantly out of tolerance, replace them.

73
Mike W5RKL

47167. Re: [TS-520_820_530_830] Lack of drive to the finals in my 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-24 23:30:51 UTC
From: Tim Mcmillin
Topic: 47158 Message: 47167

Good thought. Thanks Jan
Tim

Sent from my iPhone

47168. Re: [TS-520_820_530_830] Lack of drive to the finals in my 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-25 00:28:39 UTC
From: Jan Servaites
Topic: 47158 Message: 47168

Welcome back Tim, we have a Kenwood Hybrid Net, this Saturday, 7235kc,
3:30pm eastern.
Jan N8CBX
73

Tim Mcmillin wrote:

>
> Good thought. Thanks Jan
> Tim
>
>
>

47169. Re: [TS-520_820_530_830] Lack of drive to the finals in my 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-25 01:56:25 UTC
From: <wagstw46@...>
Topic: 47158 Message: 47169

Michael:

90% or more of all boat anchor rigs are tuned in CW mode. They have no reduced screen grid voltage position or Tune position. If you grew up in the 50s and 60s and owned any of the classic Heath, Knight, Eico etc Class C CW rigs you would have loaded in CW mode with full screen grid voltage.

As Mike points out all you have to do is tune tank quickly to resonance so you do not have high off resonance plate current. If you leave the Plate Load cap plates meshed even lower plate current to worry about. Truth is it is pretty hard to exceed the plate dissipation loading in CW mode unless you flip to Send and walk away.

Terry K9TW

47170. Re: [TS-520_820_530_830] Lack of drive to the finals in my 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-25 02:04:51 UTC
From: <wagstw46@...>
Topic: 47158 Message: 47170

I mis-spoke when I said no Tune position. They do have a "Tune position" but it was more commonly used to allow tuning of the buffer stage and spotting the transmitter. It wasnt there to provide reduced screen grid voltage to the final tubes.

.

Terry K9TW.

47171. Re: [TS-520_820_530_830] Lack of drive to the finals in my 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-25 02:25:26 UTC
From: <wagstw46@...>
Topic: 47158 Message: 47171

Jan:

No way to "cook" or "getter" 6146 finals. It wont help but it wont hurt if that is what you are suggesting?

Terry K9TW

47172. Re: [TS-520_820_530_830] Lack of drive to the finals in my 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-25 01:48:41 UTC
From: Tim Mcmillin
Topic: 47158 Message: 47172

Mike
U r a genius
Many thanks. It seems to be showing 100 watts out. I have drive

Sent from my iPhone

several "attached" posts were deleted - WB7UQU

47173. Re: [TS-520_820_530_830] Lack of drive to the finals in my 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-25 01:59:19 UTC
From: Tim Mcmillin
Topic: 47158 Message: 47173

Thanks Jan
I'll try and check in
Tim, WA3GPU

Sent from my iPhone

On Jan 24, 2014, at 7:28 PM, Jan Servaites <jservaites@...> wrote:

> Welcome back Tim, we have a Kenwood Hybrid Net, this Saturday, 7235kc, 3:30pm eastern.
> Jan N8CBX
> 73
>
> Tim Mcmillin wrote:
>>
>> Good thought. Thanks Jan
>> Tim
>>
>>
>
>

47174. Re: [TS-520_820_530_830] RE: TS-520S Low Drive on Higher Bands

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-25 03:08:09 UTC
From: Byron Tatum
Topic: 47128 Message: 47174

Hello Terry-
  Thank you for the very nice response and info! I have not been able to get back to checking out this TS-520S, but I did want to respond to you and tell you thank you.
  I do have a good scope and a VTVM with an RF probe.
 I have been studying the manual and what you mentioned so that when I get through with this set of 3 days out at work I can get back to troubleshooting the TS-520S.
  At first I thought possibly the 250 Hz CW filter may have too much attenuation, but when I go to SSB the drive level/RF output is still low.
  I will let you know what I learn, thank you, Byron.

From: "wagstw46@..." <wagstw46@...>
To: TS-520_820_530_830@yahoogroups.com
Sent: Thursday, January 23, 2014 8:53 PM
Subject: [TS-520_820_530_830] RE: TS-520S Low Drive on Higher Bands

I assume you have tried with the CAR level pot full CW?

Do you have an RF probe and VTVM or an O-scope?

If so, load to maximum on 15 meters. Then measure the RF drive voltage at MD on RF board. It should be approx 2 rms rf volts or 5.8 P-P. This is the output of the Transmit Mixer.

You need a multi diode probe to measure plate of Driver tube and control grids of the finals.

If you want to see normal TX Levels then run them on 20 meters and record them so you have base line for reference. Start with TIF signal at TP-2 and work toward the finals control grids. Will need an O-scope to measure TIF as it is too low for RF probe. Will be around 200mv to 250mv.

ALC indication is a result of ua grid current flowing from the 6146 control grids back to the -C supply when the positive going half of the RF drive voltage exceeds the operating bias voltage.. In a TS-520S you need approx 46 rms rf volts on the control grids of finals for full scale ALC indication. Assuming approx -55vdc operating bias for 60 resting plate current then any RF drive less than approx 39 rf volts means no ALC indication. You will have RF output power just no ALC indication.

You cannot measure the RF drive at Plate of Driver tube or Finals control grids with a standard single diode RF probe as it will exceed the peak reverse voltage rating of the diode and burn it out. This is why Heathkit made the PK-3 probe with 3 diodes in series to allow just such testing.

Give an example of coils used in TX mode that are not adjusted in the alignment procedure. Only ones you may not be doing that I am aware of are band pass filters which require Sweep generator which average ham may not have.

Terry K9TW

47175. Re: [TS-520_820_530_830] Lack of drive to the finals in my 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-25 01:55:46 UTC
From: Tim Mcmillin
Topic: 47158 Message: 47175

Jan
I think letting it "cook" woke up some components. Thanks for the thought. Between yours and Mikes suggestions, I think I am in business. Think ill let it cook overnight.:)
Thanks again
Tim

Sent from my iPhone

several old "attached" posts were deleted - WB7UQU

47176. Re: [TS-520_820_530_830] Gordon-n6wk - SK

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-25 10:09:17 UTC
From: Gordon JC Pearce
Topic: 47117 Message: 47176

On Fri, Jan 24, 2014 at 02:40:44PM -0500, Mark Gilger wrote:
> I'm investigating putting all of Gordon's documents on my site.
> Depends if there is enough space. I should know shortly.

Let me know if there isn't. It can't be *that* big, not more than a couple of GB. If you want some space I can probably donate some.

If you wanted to get hosting specifically for it, these days you're probably as cheap getting a VPS and having full control of the system than getting "shared webhosting" and dealing with someone else's idea of a "control panel".

> I had a lot of links that took people directly to his site for
> manuals, etc. that soon might not be able to do that.
>
> http://wb4hfn.com/KENWOOD/KenwoodHomePage.htm

No reason why you can't point the DNS at your server, and either place the files in the correct place or set up redirection. If I was hosting a backup of the site, I'd place it in a path like http://gjcp.net/~wb4hfn/KENWOOD/KenwoodHomePage.htm but obviously if you've got the whole thing up on another server you just make it work exactly like it did before.

The difficulty there is that you'd need to approach Gordon's family about control of the domain name, and of course you'd need to do that very tactfully. I don't know if you've noticed, but radio amateurs are a funny bunch, the RF gets into your brain or something, and we're not necessarily great at tactful.

> I suspect there will be enough room, just need some time to send
> files to administrator for posting. I'll have more on that later.

Do let me know if I can be any help.

--
Gordonjcp MM0YEQ

47177. Re: [TS-520_820_530_830] Lack of drive to the finals in my 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-25 13:03:22 UTC
From: Mike W5RKL
Topic: 47158 Message: 47177

Jan and Tim,

As Terry said, you can't "cook" or "getter" the 6146 final tubes by powering them up and letting them sit in standby (receive) for long periods of time.

The "getter element" in the 6146 and 12BY7, as well as other low power receiving and transmitting tubes, is attached to the plate (anode). The plate must heat up to a high temperature before the getter element can perform it's function. The only way the getter element can perform its job is for current to flow in the tube causing the plate to heat to a high temperature. The filaments of these tubes are not coated with a gas absorbing substance and the filaments cannot heat the plate to the high temperature required for the getter element to do its job.

The tubes that have a coating on the filaments are tubes such as the 4CX250s, 4CX300, and 3CX1500. These tubes have a "warm up" period that must be followed before switching the tubes from cut off state to conduction state. Failure to follow this "warm up" period can result in arcing within the tube which can permanently damage the tube. The warm up period for these tubes is defined in the manufacturer's tube specification (see the tube manuals for these tubes).

There are some "diode" tubes such as the 866 and 3B28 for example, that are named "Mercury Vapor" rectifiers. These tubes have a "warm up" period that must be followed before HV is applied. The "warm up" period heats the inside of the tube by the filament, "vaporizing" the small amount of "Mercury" in the tube, hence the name "Mercury Vapor". When HV is applied the "vaporized Mercury" glows a "light blue". Failure to follow this warm up period can result in an ARC to occur in the tube which can lead to damaging the power transformer and other power supply components.

Tubes such as the 833, 4-400, 3-500Z, and 4-1000 for example, do not have a "getter element" but rather the plate has a "gray dusty" coating. The coating is "Zirconium", a substance that, when heated to a very high temperature, absorbs residual gas in the tube. The plate must be heated to a very high temperature for the Zirconium coating to absorb gas. Current must be flowing between the cathode and plate for the plate to heat up. Operating in cut off state with filaments only will not heat the plate to the very high temperature required for the Zirconium coating to work. The heating of the plate to a very high temperature typically occurs when the plate, during normal transmitting, shows a "dull red glow". This is "normal" for these tubes and should NOT be considered a problem. I have seen inexperienced hams reduce drive when they see this "dull red flow" on the plate of their 3-500Z, thinking

there's a problem when there is no problem. That is the worse thing you can do for these tubes.

The plates of the 6146 and other low power receiving and transmitting tubes the plate should NEVER show any color!! Any signs of color showing on the plates of these low power receiving and transmitting tubes indicates a problem in the circuit. The circuit should be shut down, the problem found and fixed, before continued operation.

73
Mike W5RKL

On 1/24/2014 7:55 PM, Tim Mcmillin wrote:
> Jan
> I think letting it "cook" woke up some components. Thanks for the
> thought. Between yours and Mikes suggestions, I think I am in
> business. Think ill let it cook overnight.:)
> Thanks again?
> Tim
>
> Sent from my iPhone
>
> several old "attached" posts were deleted - WB7UQU
>
>

47178. Re: [TS-520_820_530_830] Lack of drive to the finals in my 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-25 15:41:03 UTC
From: Jan Servaites
Topic: 47158 Message: 47178

Who said anything about gettering the finals?

wagstw46@... wrote:

>
>
> Jan:
>
>
> No way to "cook" or "getter" 6146 finals. It wont help but it wont
> hurt if that is what you are suggesting?
>
>
> Terry K9TW
>
>

47179. Re: [TS-520_820_530_830] Gordon-n6wk - SK

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-25 16:19:34 UTC
From: Mark Gilger
Topic: 47117 Message: 47179

It looks like there is plenty of space.

Even after we ad all of Gordon's stuff, he's
still going to have over 2 TB left, so I'll be
sending him a DVD with everything tomorrow. Not
sure how long it will take him to upload it all,
but I'll post something on here when everything is complete.

Mark, WB0IQK

At 02:40 PM 1/24/2014, Mark Gilger wrote:
>
>
>I'm investigating putting all of Gordon's
>documents on my site. Depends if there is enough space. I should know shortly.
>
>I had a lot of links that took people directly
>to his site for manuals, etc. that soon might not be able to do that.
>
>http://wb4hfn.com/KENWOOD/KenwoodHomePage.htm
>
>I suspect there will be enough room, just need
>some time to send files to administrator for
>posting. I'll have more on that later.
>
>Mark, WB0IQK
>
>At 01:22 PM 1/24/2014, David Yarbrough wrote:
>>
>>
>>I'm really sorry to hear this.Â Since I've had
>>my TS-530SP Gordon's site has been my manual
>>for the rig, in fact I don't think I'd ever
>>even downloaded it but just kept opening the
>>file off his site each time I needed it.
>>
>>It's a shame to lose such a great resource and contributor to the community.
>>
>>Hopefully his site will stay up but I know it
>>can be trying for a family to deal with the all
>>details that result from the loss of a loved
>>one. Gordon's archive of Kenwood manuals is
>>invaluable to the community.Â I don't have a
>>good website to host such content on myself but
>>I have made an archive of Gordon's files and am sharing it here:
>>

>><https://docs.google.com/file/d/0B_nx4oLYGQ_KM3RjazV2UF9SRlU/>https://docs.google.com/file/d/0B_nx4oLYGQ_KM3RjazV2UF9SRlU/
>>
>>If others in the community would please
>>download a copy to help preserve his work that
>>would probably be good.Â The total zip file is about 905mb.
>>
>>Thanks.
>>
>>73 David
>>KG7CQI
>>
>>
>>
>>
>
>

47180. Hiss in my receive.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-25 17:18:35 UTC
From: <bsa0791@...>
Topic: 47180 Message: 47180

I now have a TS 530 project. There are several issues and I really have not dug in and started. I do notice a constant hiss or white noise in the Receive. It seems to receive, I don't believe it is what it should be The marker works fine with s meter indication.

If you move the band switch slightly to cut the band out and get a blank display with no receive, the hiss remains constant. It's like the white noise is on top of the received signal.

Thanks KB4MNG Brian

47181. Re: [TS-520_820_530_830] Lack of drive to the finals in my 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-25 18:15:25 UTC
From: <wagstw46@...>
Topic: 47158 Message: 47181

Jan:

Go back and read my response to your original recommendation. I was trying to ask you what was the objective of running the rig with heaters on? If not "cooking" or "gettering" the finals why would you recommend this procedure for a long stored KW hybrid? What are you trying to accomplish?

A much better approach would be:

1. Check to ensure has factory fuse installed.
2. Measure the resistance across the line cord power switch on = approx 2 ohms
3. Measure resistance from top of plate choke to chassis ground = approx 1.0 Meg
4. Then Dim Bulb start the rig. (I use 40w-60w-100w watt step start)

I was hoping you would come back and explain the running with heaters on procedure. I may be overlooking something. Yes you did not mention the word "getter" , but that is commonly the only reason people recommend to run long stored finals with heaters on. It wont work with 6146v finals as the getter design/process is not same as high powered RF amp tubes and the minute you turn the rig on you not only have heaters on your have 900vdc anode voltage applied .

Terry K9TW

47182. Re: [TS-520_820_530_830] Lack of drive to the finals in my 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-25 14:45:56 UTC
From: timothy mcmillin
Topic: 47158 Message: 47182

Mike,

Thanks for the interesting tube info

Terry,

You are jogging my ancient memory. I was licensed in 1958 and those were all class C rigs. I should just assume I am loading up an old DX40 or Globe Chief. I haven't thought of Eico in ages :)

Thanks for your comments.

Tim, WA3SGPU

On Sat, Jan 25, 2014 at 8:03 AM, Mike W5RKL <w5rkl@yahoo.com mailto:w5rkl@yahoo.com> wrote:
Jan and Tim,

As Terry said, you can't "cook" or "getter" the 6146 final tubes by powering them up and letting them sit in standby (receive) for long periods of time.

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The plates of the 6146 and other low power receiving and transmitting tubes the plate should NEVER show any color!! Any signs of color showing on the plates of these low power receiving and transmitting tubes indicates a problem in the circuit. The circuit should be shut down, the problem found and fixed, before continued operation.

73
Mike W5RKL

47183. Drifting TS520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-25 15:16:14 UTC
From: timothy mcmillin
Topic: 47183 Message: 47183

Now that you all kindly solved my TS830 loading problem for me, here is another puzzle for you. I also have an ancient TS520. Everything appears to be working fine. However, in my first QSO, the rig exhibited a drifting problem-in both transmitting and receiving modes. Does that suggest a problem with the VFO? or something else?
Thanks,
Tim, WA3GPU

47184. Re: [TS-520_820_530_830] Lack of drive to the finals in my 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-25 18:49:25 UTC
From: <wagstw46@...>
Topic: 47158 Message: 47184

There are generally 3 or 4 schools of thought about what to do to power on a 30 year stored KW hybrid. All have to do with understanding what is the risk and what is your risk tolerance. What are the weakest elements? What is worse damage that could incur?

In my opinion weak links are:

1. The 800 filter caps, the 300 filter caps, the 210 filter caps. All could be dried out or at least oxide coatings are deteriorated. If they fault should blow the transformer primary fuse. This is stressful on the transformer and the rectifier diodes. Transformer is the high dollar item.

2. The finals could have off gassed or had in-leakage at seals and could arc over the minute they see 900vdc. (moment you turn the rig on)

So what are the options?

1. Just plug rig in. Turn on power. Watch and sniff and then turn on heaters and then attempt to load the rig. This school of thought is based on if something goes bang no big deal just identify and fix it.

2. Power on and bring up slowly with a Variac. This works but variac doesnt limit fault current and transformer is still at risk.

3. Power on and bring up with Dim Bulb method. SImilar to Variac accept if 1st low wattage bulb glows brite and does not dim down transformer is not hurt and you can then take voltage measurements to locate the fault.

4. Actually attempt to reform the electrolytic capacitors. This requires controlled voltage steps and measuring leakage current following a precise procedure.

I prefer some minimum testing and visual inspection followed by the Dim Bulb procedure. You can read all about it on the Antique Radio Forums.

Terry K9TW

47185. Re: [TS-520_820_530_830] speaker grille cloth?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-25 11:04:48 UTC
From: Michael Sylvester
Topic: 47140 Message: 47185

But then you'd miss the joy of spending 3 hours or so with the XYL in a fabric store.
Has anyone ever got an accurate count of the "through hole solder repair" on the digital board for the 820S, as to how many?
I found 16 on only one board, none on the other.
I think I've asked 4 times now, anyone know?
On another 820S I'm getting "counting" on 28, 29 and 29.5 bands.
First places to look? I thought the 28.5 band was counting also (unstable digital display, running up and down), the 28.5 is not counting, it is stable.

"There is Another?
Michael///KD0WSJ

this post edited as it contained already posted items - WB7UQU

47186. Re: [TS-520_820_530_830] Drifting TS520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-25 20:04:36 UTC
From: Mark Gilger
Topic: 47183 Message: 47186

Drift or sudden freq. shifts?

Mark, WB0IQK

At 10:16 AM 1/25/2014, timothy mcmillin wrote:
>
>
>Now that you all kindly solved my TS830 loading
>problem for me, here is another puzzle for you.
>I also have an ancient TS520. Everything appears
>to be working fine. However, in my first QSO,
>the rig exhibited a drifting problem-in both
>transmitting and receiving modes. Does that
>suggest a problem with the VFO? or something else?
>Thanks,
>Tim, WA3GPU
>
>

47187. Re: [TS-520_820_530_830] Drifting TS520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-25 21:19:56 UTC
From: timothy mcmillin
Topic: 47183 Message: 47187

Mark,
Here is my friend Dick's observation when he was on the other side of the QSO

I've been thinking about the drifting problem.

1. First it drifted one way,I think higher in frequency.
2. Initially, the drift was medium speed.
3. Then the drift speed increased.
4. Then the drift went one way, paused, and came back the other way.
5. The longer you tested, the faster the drift became.
6. Each time you hit the button to start another transmission, you were back on frequency and then began drifting again. Like it "rested" between transmissions.

When I was restoring the SP-600, I read an article about drifting suggesting that dust collected on the rotor and stator of the main tuning capacitor should be carefully cleaned out. Just a thought.

Bring the tubes anyway. We may learn something.

On Sat, Jan 25, 2014 at 3:04 PM, Mark Gilger <mgilger@...> wrote:

>
>
> Drift or sudden freq. shifts?
>
> Mark, WB0IQK
>
>
> At 10:16 AM 1/25/2014, timothy mcmillin wrote:
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> problem-in both transmitting and receiving modes. Does that suggest a
> problem with the VFO? or something else?
> Thanks,
> Tim, WA3GPU
>
>
>
>

47188. Firing up a old TS-820 for the first time

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-25 22:29:29 UTC
From: Karl Schwab
Topic: 47188 Message: 47188

A friend of mine is giving me his old TS-820 that he bought as new and it has seen little use and hasn't been powered up for nearly 30 years! It has always been kept in his house and looks like it is brand-new! What precautions should I take before I power it up? I recall in reading somewhere, that a Variac (I have one) should be used slowly to re-form the caps. If so, just how would I go about this. Wish me luck, 73, Karl, KO8S

47189. Re: [TS-520_820_530_830] Firing up a old TS-820 for the first time

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-25 22:47:47 UTC
From: Mike W5RKL
Topic: 47188 Message: 47189

Karl,

You should read Terry's recent response "today" about this very topic. I cut and pasted it below:

---
*
*

*"/There are generally 3 or 4 schools of thought about what to do to power on a 30 year stored KW hybrid. All have to do with understanding what is the risk and what is your risk tolerance. What are the weakest elements? What is //worse damage that could incur?//
/*

/*
In my opinion weak links are:*/

/*
*/

/*1. The 800 filter caps, the 300 filter caps, the 210 filter caps. All could be dried out or at least oxide coatings are deteriorated. If they fault should blow the transformer primary fuse. This is stressful on the transformer and the rectifier diodes. Transformer is the high dollar item. */

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*/

/*2. The finals could have off gassed or had in-leakage at seals and could arc over the minute they see 900vdc. (moment you turn the rig on) */

/*
*/

/*So what are the options?*/

/*
*/

/*1. Just plug rig in. Turn on power. Watch and sniff and then turn on heaters and then attempt to load the rig. This school of thought is based on if something goes bang no big deal just identify and fix it. */

/*
*/

/*2. Power on and bring up slowly with a Variac. This works but variac doesnt limit fault current and transformer is still at risk.*/

/*
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/*3. Power on and bring up with Dim Bulb method. SImilar to Variac accept if 1st low wattage bulb glows brite and does not dim down transformer is not hurt and you can then take voltage measurements to locate the fault. */

/*
*/

/*4. Actually attempt to reform the electrolytic capacitors. This requires controlled voltage steps and measuring leakage current following a precise procedure.*/

/*
*/

/*I prefer some minimum testing and visual inspection followed by the Dim Bulb procedure. You can read all about it on the Antique Radio Forums. */

/*
*/

/*Terry K9TW"
*/

/*----------
*/

73
Mike W5RKL

On 1/25/2014 4:29 PM, Karl Schwab wrote:
> A friend of mine is giving me his old TS-820 that he bought as new and
> it has seen little use and hasn't been powered up for nearly 30
> years! It has always been kept in his house and looks like it is
> brand-new! What precautions should I take before I power it up? I
> recall in reading somewhere, that a Variac (I have one) should be used
> slowly to re-form the caps. If so, just how would I go about this.
> Wish me luck, 73, Karl, KO8S
>

47190. Re: [TS-520_820_530_830] Drifting TS520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-25 23:38:18 UTC
From: Mark Gilger
Topic: 47183 Message: 47190

Usually the dirty rotor/stator is noticed when
the freq. shifts while tuning the main tuning
dial. That's not to say it can't cause drift and
is usually the first thing anyone should do
before doing anything more drastic.

If you go to the following link, you can see what
it takes to clean it. Actually I've found you
don't even need to remove the VFO from the case,
just tilt the radio onto it's left side, Take 1
screw out of the side plate of the vfo, then
spray the DeOxit in the rear. Then move the dial
from 0-500 a half dozen ore more times and it's
fixed. The article is for an 820, but it's the same for the 520.

http://www.n6wk.com/kenwood/TS-820-VFO--servicing.pdf

Now in some cases, like my TS-820S, I had drift
that continued even after the cleaning so I
installed a VFO stabilizer. It's now rock solid.
Installed it in my R-820 also.

You can also find the article on my web site.

http://wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73-'s,
Mark

At 04:19 PM 1/25/2014, you wrote:
>
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>Mark,
>Here is my friend Dick's observation when he was on the other side of the QSO
>
>[]
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>I've been thinking about the drifting problem.
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>Bring the tubes anyway. We may learn something.
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>On Sat, Jan 25, 2014 at 3:04 PM, Mark Gilger
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>>problem-in both transmitting and receiving
>>modes. Does that suggest a problem with the VFO? or something else?
>>Thanks,
>>Tim, WA3GPU
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>

47191. Re: [TS-520_820_530_830] Gordon-n6wk - SK

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-26 01:07:40 UTC
From: Jeff Blaine
Topic: 47117 Message: 47191

That’s great news Mark.

73/jeff/ac0c
www.ac0c.com
alpha-charlie-zero-charlie

From: Mark Gilger
Sent: Saturday, January 25, 2014 10:19 AM
To: TS-520_820_530_830@yahoogroups.com ; TS-520_820_530_830@...m ;
TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830] Gordon-n6wk - SK

It looks like there is plenty of space.

Even after we ad all of Gordon's stuff, he's still going to have over 2 TB left, so I'll be sending him a DVD with everything tomorrow. Not sure how long it will take him to upload it all, but I'll post something on here when everything is complete.

Mark, WB0IQK

At 02:40 PM 1/24/2014, Mark Gilger wrote:

I'm investigating putting all of Gordon's documents on my site. Depends if there is enough space. I should know shortly.

I had a lot of links that took people directly to his site for manuals, etc. that soon might not be able to do that.

http://wb4hfn.com/KENWOOD/KenwoodHomePage.htm

I suspect there will be enough room, just need some time to send files to administrator for posting. I'll have more on that later.

Mark, WB0IQK

At 01:22 PM 1/24/2014, David Yarbrough wrote:

I'm really sorry to hear this.Â Since I've had my TS-530SP Gordon's site has been my manual for the rig, in fact I don't think I'd ever even downloaded it but just kept opening the file off his site each time I needed it.

It's a shame to lose such a great resource and contributor to the community.

Hopefully his site will stay up but I know it can be trying for a family to deal with the all details that result from the loss of a loved one. Gordon's archive of Kenwood manuals is invaluable to the community.Â I don't have a good website to host such content on myself but I have made an archive of Gordon's files and am sharing it here:

https://docs.google.com/file/d/0B_nx4oLYGQ_KM3RjazV2UF9SRlU/

If others in the community would please download a copy to help preserve his work that would probably be good.Â The total zip file is about 905mb.

Thanks.

73 David
KG7CQI

47192. Re: [TS-520_820_530_830] Lack of drive to the finals in my 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-26 01:38:54 UTC
From: <wagstw46@...>
Topic: 47158 Message: 47192

Had and off the reflector question about why I did not mention re-capping the 30 year old stored rig before powering on as a viable option.

Well not many of us want to bring home a pristine cosmetic radio and have to recap it before we can turn it on. Average person is going to be real interested in firing this treasure up.

In practice installing a recap kit would be a more practical than reforming all of the electrolytics as the best way to reform would be to remove capacitors and reform individually on the bench where leakage current and temperature could be monitored during the process. Problem is that can take literally hours and different rules of thumb for what is acceptable leakage current. What caps would you chose to bench reform? If you are going to remove caps to reform them might as well replace them.

Alternative "reforming" method is to try to reform all caps simultaneously in place in their respective circuits by identifying the lowest WVDC rating and reforming the entire electrolytic population to that level and then moving up to the next WVDC level and reforming all to that voltage and repeat at each WVDC until you have worked your way up to the 450 to 500 wvdc population. You would do this with a Variac. Not a very practical thing to do and very time consuming taking literally hours up to and including overnight. No way to know if any individual cap in the population was not reformed to an acceptable leakage current.

So yes you could buy a recap kit and install it before powering up your 30 year old NOS KW Hybrid. I frankly did not think of it as I am not in the total recap business. If you opt for this there are some associated risks to be aware of:

1. Can pull molex connectors off the board or induce a latent fault that will manifest itself down the road. Probably less risk with rig that has not had lots of connector plug and unplug cycles on the boards. Common problem is a hair line crack at the pin pad to trace that isnt easily seen due to the solder mask and it can give you fits down the road. This is usually caused by side to side motion and rocking of the connector body during plug removal. Some of the factory soldering is very poor with the solder having never fully wetted to the pin.

2. Lift a solder pad. Need good de-soldering tool. I would hate to do this with spring loaded solder sucker or solder wick. A Hakko 808 or similar would be tool of choice for a project like this.

3. Installing replacement capacitors wrong polarity. Depending on which model KW rig there are several capacitors that are installed reverse polarity ie the positive terminal is to ground. If you are not paying attention to the removed orientation you could reinstall replacement cap incorrectly. In my experience the schematic and silk screening markings on the board are wrong. You can tell which is correct orientation if the capacitor is involved in a negative voltage circuit. Electrolytics anode and cathode plates cannot stand much more than 1 vdc reverse voltage. Look at Sprague or Cornell Dublier app notes on this topic.

So yes you can add total electrolytic re-cap to the list of things you could do before powering up your 30 year old NOS rig.

For me I would do some limited measurements and checks as noted, perform a visual inspection (dont want any insect nests), and start up using the Dim Bulb method. If you have a Variac and ammeter can do that as well, but you have no current limiting.

If you feel lucky go ahead and give it the smoke test! My guess is that this is probably the most common method.

Terry K9TW

47193. Re: Gordon-n6wk - SK

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-26 03:29:41 UTC
From: larry shorthill
Topic: 47117 Message: 47193

Does anyone have contact with his family to see how they are coping?

How are they planning to dispose of his radio estate? It would be wonderful if they could get full value from his property.

If the family needs assistance perhaps a fund at one of the local banks could be set up for contributions in his name. Same with any charities. Often these touches mean a lot to widows and survivors--real world sentiment backed up by tangible resources to help the survivors of a much beloved friend and Elmer.

Just wondering. I often followed his advice to good end and I'm frankly tired of contributing only to political causes. This is an endeavor we could all support for this good friend and fellow ham.

Best regards
Larry, KS7J

47194. Re: [TS-520_820_530_830] Re: Gordon-n6wk - SK

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-26 11:59:58 UTC
From: <zen18531@...>
Topic: 47117 Message: 47194

Parry, an excellent idea, and one I would be willing to contribute to. Gordon's site was the first I found when I bought my 530 from Geoff (sadly now SK), and was shocked by the news of his passing. A great loss.

Alan M6XRE

-- Original Message --
From: larry shorthill <larry.shorthill@...>
To: TS-520_820_530_830@yahoogroups.com
Send: Sat, 25 Jan 2014 19:29:41 -0800
Subject: [TS-520_820_530_830] Re: Gordon-n6wk - SK

Does anyone have contact with his family to see how they are coping?
How are they planning to dispose of his radio estate?? It would be wonderful if they could get full value from his property.
If the family needs assistance perhaps a fund at one of the local banks could be set up for contributions in his name. Same with any charities. Often these touches mean a lot to widows and survivors--real world sentiment backed up by tangible resources to help the survivors of a much beloved friend and Elmer.?

Just wondering. I often followed his advice to good end and I'm frankly tired of contributing only to political causes. This is an endeavor we could all support for this good friend and fellow ham.
Best regards
Larry, KS7J

47195. Re: [TS-520_820_530_830] Drifting TS520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-25 23:58:57 UTC
From: Tim Mcmillin
Topic: 47183 Message: 47195

Thanks Mark
Tim WA3GPU

Sent from my iPhone

On Jan 25, 2014, at 6:38 PM, Mark Gilger <mgilger@...> wrote:

> Usually the dirty rotor/stator is noticed when the freq. shifts while tuning the main tuning dial. That's not to say it can't cause drift and is usually the first thing anyone should do before doing anything more drastic.
>
> If you go to the following link, you can see what it takes to clean it. Actually I've found you don't even need to remove the VFO from the case, just tilt the radio onto it's left side, Take 1 screw out of the side plate of the vfo, then spray the DeOxit in the rear. Then move the dial from 0-500 a half dozen ore more times and it's fixed. The article is for an 820, but it's the same for the 520.
>
> http://www.n6wk.com/kenwood/TS-820-VFO--servicing.pdf
>
> Now in some cases, like my TS-820S, I had drift that continued even after the cleaning so I installed a VFO stabilizer. It's now rock solid. Installed it in my R-820 also.
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> You can also find the article on my web site.
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> http://wb4hfn.com/KENWOOD/KenwoodHomePage.htm
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> 73-'s,
> Mark
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> At 04:19 PM 1/25/2014, you wrote:
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>>> Thanks,
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47196. Re: [TS-520_820_530_830] Drifting TS520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-25 23:59:40 UTC
From: Tim Mcmillin
Topic: 47183 Message: 47196

Dick
Your memory is good. See below

Sent from my iPhone

On Jan 25, 2014, at 6:38 PM, Mark Gilger <mgilger@...> wrote:

> Usually the dirty rotor/stator is noticed when the freq. shifts while tuning the main tuning dial. That's not to say it can't cause drift and is usually the first thing anyone should do before doing anything more drastic.
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>>> Thanks,
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47197. VFO-230 For Sale

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-26 01:56:27 UTC
From: <ecoons@...>
Topic: 11863 Message: 47197

I have a very nice condition VFO-230 for sale with the connecting cable. This unit functions fine except it "misses" sometimes when tuning down meaning there is a position in the tuning knob rotation where it doesn't change the frequency. Tuning up doesn't seem to have the problem or at least not as much. I have been told that recapping the power supply will fix this but it hasn't been severe enough for me to bother doing it. Other then this the unit is in really good condition for it's age. I would give it an 8 out of 10. Pictures are available upon request. Price is $200 plus actual shpping. Please email me or call me at 518-566-0550.
Thanks, Eric W2EJC

47198. Re: [TS-520_820_530_830] VFO-230 For Sale

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-26 14:21:11 UTC
From: <zen18531@...>
Topic: 11863 Message: 47198

Eric, am interested. Would you ship to UK?

Alan M6XRE

-- Original Message --
From: ecoons@...
To: TS-520_820_530_830@yahoogroups.com
Send: 25 Jan 2014 17:56:27 -0800
Subject: [TS-520_820_530_830] VFO-230 For Sale

I have a very nice condition VFO-230 for sale with the connecting cable. This unit functions fine except it "misses" sometimes when tuning down meaning there is a position in the tuning knob rotation where it doesn't change the frequency. Tuning up doesn't seem to have the problem or at least not as much. I have been told that recapping the power supply will fix this but it hasn't been severe enough for me to bother doing it. Other then this the unit is in really good condition for it's age. I would give it an 8 out of 10.
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47199. Re: [TS-520_820_530_830] Firing up a old TS-820 for the first time

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-26 15:17:48 UTC
From: Karl Schwab
Topic: 47188 Message: 47199

Thanks Mike (W5RKL) for this info. I have a lot to consider. 73, KO8S, Karl

---
From: Mike W5RKL <w5rkl@yahoo.com>
To: TS-520_820_530_830@yahoogroups.com
Sent: Saturday, January 25, 2014 5:47 PM
Subject: Re: [TS-520_820_530_830] Firing up a old TS-820 for the first time

Karl,

You should read Terry's recent response "today" about this very
topic. I cut and pasted it below:

"There are generally 3 or 4 schools of thought about what to do to power on a 30 year stored KW hybrid. All have to do with understanding what is the risk and what is your risk tolerance. What are the weakest elements? What is worse damage that could incur?

In my opinion weak links are:

1. The 800 filter caps, the 300 filter caps, the 210 filter caps. All could be dried out or at least oxide coatings are deteriorated. If they fault should blow the transformer primary fuse. This is stressful on the transformer and the rectifier diodes. Transformer is the high dollar item.

2. The finals could have off gassed or had in-leakage at seals and could arc over the minute they see 900vdc. (moment you turn the rig on)

So what are the options?

1. Just plug rig in. Turn on power. Watch and sniff and then turn on heaters and then attempt to load the rig. This school of thought is based on if something goes bang no big deal just identify and fix it.

2. Power on and bring up slowly with a Variac. This works but variac doesnt limit fault current and transformer is still at risk.

3. Power on and bring up with Dim Bulb method. SImilar to Variac accept if 1st low wattage bulb glows brite and does not dim down transformer is not hurt and you can then take voltage measurements to locate the fault.

4. Actually attempt to reform the electrolytic capacitors. This requires controlled voltage steps and measuring leakage current following a precise procedure.

I prefer some minimum testing and visual inspection followed by the Dim Bulb procedure. You can read all about it on the Antique Radio Forums.

Terry K9TW"

73
Mike W5RKL

On 1/25/2014 4:29 PM, Karl Schwab wrote:

>A friend of mine is giving me his old TS-820 that he bought as new and it has seen little use and hasn't been powered up for nearly 30 years! It has always been kept in his house and looks like it is brand-new! What precautions should I take before I power it up? I recall in reading somewhere, that a Variac (I have one) should be used slowly to re-form the caps. If so, just how would I go about this. Wish me luck, 73, Karl, KO8S

47200. Re: [TS-520_820_530_830] Re: Gordon-n6wk - SK

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-26 15:43:12 UTC
From: <kmx888@...>
Topic: 47117 Message: 47200

I was always struck by what a gentleman Gordon was with everyone, I have asked a lot of pretty simple and sometimes ignorant questions and he was always patent and kind with this help.

I went to the site of his funeral home and read the comments. It was amazing how most of them were from Hams, most of whom had never met him but knew him from QSO's. He must have touched people all over the world based on the strentgh of his personality and kindness.

It is nice to see someone leave such a nice legacy of helpfulness and kindness.
Kevin/KD0ILM/XV2KM

47201. Re: [TS-520_820_530_830] Re: Gordon-n6wk - SK

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-26 15:49:53 UTC
From: NA6XR
Topic: 47117 Message: 47201

Guys !! Come on let the family have time to mourn and reflect.

73's DE NA6XR
Otis McCoy

> On Jan 25, 2014, at 7:29 PM, larry shorthill <larry.shorthill@...> wrote:
>
> Does anyone have contact with his family to see how they are coping?
>
> How are they planning to dispose of his radio estate? It would be wonderful if they could get full value from his property.
>
> If the family needs assistance perhaps a fund at one of the local banks could be set up for contributions in his name. Same with any charities. Often these touches mean a lot to widows and survivors--real world sentiment backed up by tangible resources to help the survivors of a much beloved friend and Elmer.
>
> Just wondering. I often followed his advice to good end and I'm frankly tired of contributing only to political causes. This is an endeavor we could all support for this good friend and fellow ham.
>
> Best regards
> Larry, KS7J
>
>

47202. RE: TS-820, No transmit on CW or TUNE ..

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-26 15:42:35 UTC
From: <famtech@...>
Topic: 47070 Message: 47202

Problem solved !! Rig now works on CW and TUNE. Now, it has one last sticky issue to resolve and that is AGC recovery after transmit. When the transceiver is first turned on, receive gain is just fine. When placed in transmit in any mode and back to receive, gain drops way down. Powering-down the transceiver and back on recovers receive gain. Also, pulling the RF-1 connector and reinserting accomplishes the same bringing back nominal gain. Replacing Q2 on the RF board offered no remedy. Has anyone encountered this with their TS-820 rigs ??

Nothing worked on this rig when I got it, it had issues with every circuit board in it and except for this final problem, it's almost back to a completely functional and restored TS-820. Almost at the end of the tunnel.

Regards,

Jim L.
WB6KVD

47203. Re: [TS-520_820_530_830] VFO-230 For Sale

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-26 17:39:04 UTC
From: <ecoons@...>
Topic: 11863 Message: 47203

No I am only willing to ship to USA and Canada. Sorry

47204. RE: speaker grille cloth?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-26 21:40:20 UTC
From: <paw_paw44036@...>
Topic: 47140 Message: 47204

Try here;
http://acoustonespeakercloth. com/ ACOU_SPEAK_CLOTH. asp http://acoustonespeakercloth. com/ ACOU_SPEAK_CLOTH. asp

Bill wd8osj

47205. RE: TS830S Unstable on 10M - no output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-26 21:57:52 UTC
From: <dlacroix@...>
Topic: 46900 Message: 47205

Need tg o clarify, I don't suspect the driver because there are times when I get full ALC deflection, then it drops back to zero as if I'd let up on the switch. That leads me to suspect oscillation fails or flaky connection somewhere. I cleaned the bandswitch wafers pretty good and it made no difference. I'm looking for some advice on tracking it down with an RF probe to isolate where I'm losing the drive.

47206. RE: TS-820, No transmit on CW or TUNE ..

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-26 22:43:24 UTC
From: <wagstw46@...>
Topic: 47070 Message: 47206

I assume when the gain is down that the S-meter is reading up scale?

If so, the signal attenuation you are seeing is due to the AGC bus control voltage to the Gate 2 of the IF and RF gain controlled mosfets being lower than RF-1 set point level.

Have you tried cleaning the Aux relay contacts or swapping the Ant TR relay with the Aux relay?

The Aux relay switches your AGC and ALC reference voltage and if contacts dirty can see low AGC voltage when relay contacts switch from TX (ALC) and back to RX (AGC).

You need a very high Z VTVM like a HP-410C to accurately measure the AGC bus voltage.

You can also measure RF-1 to make sure it is stable at TX/RX transition, but I doubt it is moving.

Terry K9TW

47207. RE: TS830S Unstable on 10M - no output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-26 23:01:34 UTC
From: <wagstw46@...>
Topic: 46900 Message: 47207

Is it doing this just on 10 meters or on all bands?

If you have a single diode RF probe start by measure/monitoring the RF drive level at output of the TX Mixer at TP-4 on RF board. The Service Manual has the TX Level Diagrams on page 44 of the 3rd edition.

Should be 2 to 3 rms rf volts depending on the band.

Terry K9TW

47208. RE: VFO-230 For Sale

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-27 02:04:08 UTC
From: <ecoons@...>
Topic: 11863 Message: 47208

I got a phone call from a Mr. Swiger in WV and he told me to clean the large connector on the top of the wain board and that would cure the "Misses" problem. Well I did that and it did! The VFO now functions perfectly. Price is $220 now plus shipping.

47209. RE: VFO-230 For Sale

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-27 02:13:58 UTC
From: <ecoons@...>
Topic: 11863 Message: 47209

I have decided to leave the price at $200 plus shipping and not raise it because the fix was so easy.

47210. Kenwood Hybrid Net Update (January 26, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-26 23:38:10 UTC
From: Mark Gilger
Topic: 47210 Message: 47210

Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

The net recently celebrated it□s 2nd year in existence on November 1st, 2013. The yearly check-in totals are posted at the bottom of this message. It showed we had a 10% increase in our Saturday check-ins and an 8% on Sunday as compared to the 2012 check-ins.

The Saturday 40 meter net had 20 stations checking in under good band conditions. There were 5 new stations checking in, KD8STE, K4JQL, WD8OSJ, WO3T, and DK8SUD. We had the following number of radios checking in.

6 running TS-520(x)
4 running TS-530(x)
2 running TS-820(x)
3 running TS-830S

I was running my TS-940s with an L4B amplifier.

Jimmy, WB3KNR ran the Sunday 20 meter net and had 22 stations checking in under good band conditions.. Out of those, there was:

6 running TS-520(x)
1 running TS-530(x)
2 running TS-820(x)
5 running TS-830S

Jimmy was running his TS-520.

We have been having several people checking in regularly with their TS-430, TS-440, and TS-940□s, which of course is not a hybrid, although over 30+ years old. Everyone is welcome as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a net control station, please send me an email. Currently it's just myself, WB2KNR and WB0SGA. I would like to get several more. If we do, we can alternate so everyone might be on a 3-4 week

rotation. It's a lot of fun and a good way to
make sure you station is optimized.

For anyone that has not heard, we have a new web
site that WB4HFN is hosting. He currently has a
very nice site for Drake, Collins and Heathkit
and now Kenwood Hybrids. Good quality manuals
plus sale flyers and brochures will be found
here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 ☐ Oct. 2012 Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins

November 2013, Saturday☐s net total = 94, Sunday☐s total = 85
December 2013, Saturday☐s net total = 87, Sunday☐s total = 103
January 2014, Saturday☐s net total = 71, Sunday☐s total = 82 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

47211. RE: Kenwood Hybrid Net Update (January 26, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-27 13:14:15 UTC
From: <paw_paw44036@...>
Topic: 47210 Message: 47211

I tried 3 times to check in on Sunday and was not heard for some reason. I made 3 west coast contacts later after the net was over. Will try again next Sunday.
Bill WD8OSJ

47212. RE: VFO-230 For Sale

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-27 13:18:23 UTC
From: <paw_paw44036@...>
Topic: 11863 Message: 47212

E-Bay. I bought 6 in November.
Bill WD8OSJ

47213. Re: [TS-520_820_530_830] TS830S No Output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-27 18:23:49 UTC
From: Mike W5RKL
Topic: 47087 Message: 47213

Keith,

Haven't heard from you in 3 days. I was wondering if you performed the voltage drop measurement between the 830's Rectifier board's "210A" and "SG2" terminals I asked you to do? If so what was the result?

73
Mike W5RKL

On 1/24/2014 11:47 AM, Mike W5RKL wrote:
>
> Keith,
>
>
> There is nothing wrong with the Rectifier Unit's 210A supply so don't
> mess with it!!
>
> I'm still puzzled why the Rectifier Unit's 210A terminal has +254VDC
> on it but the Rectifier Unit's SG2 terminal has +124VDC. The only
> component between the Rectifier Unit's 210A terminal and the Rectifier
> Unit's SG2 terminals is the RL1 relay. Therefore, perform the
> following voltage check with your DC volt meter.
>
> Connect your DC volt meter's RED meter lead to the Rectifier Unit's
> 210A terminal and the DC volt meter's BLACK meter lead to the
> Rectifier Unit's SG2 terminal and tell me what the meter displays.
>
> 73
> Mike W5RKL
>
> On 1/24/2014 6:10 AM, keith.hutt@... wrote:
>>
>> Mike
>>
>>
>> Voltage at SG2 is +253VDC
>>
>>
>> Many thanks for the help
>>
>>
>> Keith G0TSH
>>
>
>
>

>

47214. RE: VFO-230 For Sale

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-27 15:24:39 UTC
From: <ecoons@...>
Topic: 11863 Message: 47214

VFO has been sold....Thanks Glenn

47215. The heroic folks at Kenwood - a tribute!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-27 21:37:24 UTC
From: Craig Roberts
Topic: 47087 Message: 47215

I will reserve comment on this unwittingly humorous video other than to say that I suspect that Kenwood's radio assembly methods have evolved a bit since the days of our lovely old -- and occasionally temperamental -- hybrids.

It's the music soundtrack that makes this presentation what it is. Enjoy!

https://www.youtube.com/watch?v=G6B-cC0AYxY

73,

Craig
W3CRR

47216. Re: [TS-520_820_530_830] The heroic folks at Kenwood - a tribute!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-27 21:49:33 UTC
From: Mark Gilger
Topic: 47087 Message: 47216

Sure could purchase a lot of TS-520's for price of one of these.
Mark, WB0IQK

At 04:37 PM 1/27/2014, you wrote:
>I will reserve comment on this unwittingly humorous video other than to
>say that I suspect that Kenwood's radio assembly methods have evolved a
>bit since the days of our lovely old -- and occasionally temperamental
>-- hybrids.
>
>It's the music soundtrack that makes this presentation what it is. Enjoy!
>
>https://www.youtube.com/watch?v=G6B-cC0AYxY
>
>73,
>
>Craig
>W3CRR
>
>
>
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>
>Yahoo Groups Links
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47217. Re: [TS-520_820_530_830] The heroic folks at Kenwood - a tribute!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-27 23:19:26 UTC
From: W LEWIS
Topic: 47087 Message: 47217

What's the name of the video? The link is not working.
Butch
KØPSA

From: Mark Gilger <mgilger@brightdsl.net>
To: TS-520_820_530_830@yahoogroups.com
Sent: Monday, January 27, 2014 3:49 PM
Subject: Re: [TS-520_820_530_830] The heroic folks at Kenwood - a tribute!

Sure could purchase a lot of TS-520's for price of one of these.
Mark, WB0IQK

At 04:37 PM 1/27/2014, you wrote:
>I will reserve comment on this unwittingly humorous video other than to
>say that I suspect that Kenwood's radio assembly methods have evolved a
>bit since the days of our lovely old -- and occasionally temperamental
>-- hybrids.
>
>It's the music soundtrack that makes this presentation what it is. Enjoy!
>
>https://www.youtube.com/watch?v=G6B-cC0AYxY
>
>73,
>
>Craig
>W3CRR
>
>
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>
>Yahoo Groups Links
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>

47218. Re: [TS-520_820_530_830] The heroic folks at Kenwood - a tribute!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-28 01:03:40 UTC
From: Craig Roberts
Topic: 47087 Message: 47218

/Butch asked: "What's the name of the video? The link is not working."/

For those who cannot access the link, the You Tube video I referenced is titled: "Assembly line of KENWOOD TS 990"; a Japanese language promotional piece for the new, ummm, TS-990S.

If the price is indicative, it is fashioned of unobtainium.

73,

Craig
W3CRR

47219. RE: [TS-520_820_530_830] The heroic folks at Kenwood - a tribute!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-28 01:10:03 UTC
From: fpath fpath
Topic: 47087 Message: 47219

Loved the gloves, no nasty finger prints anywhere. I still don't think Kenwood has got it right yet. They need a Fully load ts830s, with a few extras like DSP, vacuum relays, vacuum caps and 2x 3-500z valves in the PA..

Oh well once can drea

73s

Dave

VK5DPL

To: TS-520_820_530_830@yahoogroups.com
From: nscb56a@...
Date: Mon, 27 Jan 2014 15:19:26 -0800
Subject: Re: [TS-520_820_530_830] The heroic folks at Kenwood - a tribute!

What's the name of the video? The link is not working.
Butch
KØPSA

From: Mark Gilger <mgilger@...>
To: TS-520_820_530_830@yahoogroups.com
Sent: Monday, January 27, 2014 3:49 PM
Subject: Re: [TS-520_820_530_830] The heroic folks at Kenwood - a tribute!

Sure could purchase a lot of TS-520's for price of one of these.
Mark, WB0IQK

At 04:37 PM 1/27/2014, you wrote:
>I will reserve comment on this unwittingly humorous video other than to
>say that I suspect that Kenwood's radio assembly methods have evolved a
>bit since the days of our lovely old -- and occasionally temperamental
>-- hybrids.
>
>It's the music soundtrack that makes this presentation what it is. Enjoy!
>
>https://www.youtube.com/watch?v=G6B-cC0AYxY
>
>73,
>
>Craig
>W3CRR
>
>
>
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>Yahoo Groups Links
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47220. Re: [TS-520_820_530_830] The heroic folks at Kenwood - a tribute!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-28 01:40:38 UTC
From: Joe - W7RKN
Topic: 47087 Message: 47220

Works fine for me!

Try it again!

https://www.youtube.com/watch?v=G6B-cC0AYxY

----- Original Message -----
From: W LEWIS
Subject: Re: [TS-520_820_530_830] The heroic folks at Kenwood - a tribute!

What's the name of the video? The link is not working.
Butch
KØPSA

From: Mark Gilger <mgilger@...>
To: TS-520_820_530_830@yahoogroups.com
Sent: Monday, January 27, 2014 3:49 PM
Subject: Re: [TS-520_820_530_830] The heroic folks at Kenwood - a tribute!

Sure could purchase a lot of TS-520's for price of one of these.
Mark, WB0IQK

At 04:37 PM 1/27/2014, you wrote:
>I will reserve comment on this unwittingly humorous video other than to
>say that I suspect that Kenwood's radio assembly methods have evolved a
>bit since the days of our lovely old -- and occasionally temperamental
>-- hybrids.
>
>It's the music soundtrack that makes this presentation what it is. Enjoy!
>
>https://www.youtube.com/watch?v=G6B-cC0AYxY
>
>73,
>
>Craig
>W3CRR
>
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>-----
>
>Yahoo Groups Links
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>

47221. Re: [TS-520_820_530_830] The heroic folks at Kenwood - a tribute!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-28 01:43:27 UTC
From: Joe - W7RKN
Topic: 47087 Message: 47221

```
----- Original Message -----
From: fpath fpath
Subject: RE: [TS-520_820_530_830] The heroic folks at Kenwood - a tribute!

and 2x 3-500z valves in the PA..
You *are* a dreamer, aren't you?!! <<GRIN>>
Joe - W7RKN
```

47222. Re: [TS-520_820_530_830] TS830S No Output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-27 21:40:46 UTC
From: Keith Hutt
Topic: 47087 Message: 47222

Hi Mike,

Sorry I am away with work "one of those can you get here yesterday type things", I will be back home at the weekend I hope. I will contact you then I really appreciate the time and effort you are putting in to help me.

Regards

Keith G0TSH

Sent from my iPad

> On 27 Jan 2014, at 18:23, Mike W5RKL <w5rkl@...> wrote:
>
> Keith,
>
> Haven't heard from you in 3 days. I was wondering if you performed the voltage drop measurement between the 830's Rectifier board's "210A" and "SG2" terminals I asked you to do? If so what was the result?
>
> 73
> Mike W5RKL
>
>
>
>
>> On 1/24/2014 11:47 AM, Mike W5RKL wrote:
>>
>> Keith,
>>
>> There is nothing wrong with the Rectifier Unit's 210A supply so don't mess with it!!
>>
>> I'm still puzzled why the Rectifier Unit's 210A terminal has +254VDC on it but the Rectifier Unit's SG2 terminal has +124VDC. The only component between the Rectifier Unit's 210A terminal and the Rectifier Unit's SG2 terminals is the RL1 relay. Therefore, perform the following voltage check with your DC volt meter.
>>
>> Connect your DC volt meter's RED meter lead to the Rectifier Unit's 210A terminal and the DC volt meter's BLACK meter lead to the Rectifier Unit's SG2 terminal and tell me what the meter displays.
>>
>> 73
>> Mike W5RKL
>>
>>> On 1/24/2014 6:10 AM, keith.hutt@... wrote:
>>>

```
>>> Mike
>>>
>>>
>>> Voltage at SG2 is +253VDC
>>>
>>>
>>> Many thanks for the help
>>>
>>>
>>> Keith G0TSH
>>>
>
>
```

47223. Searching messages specific to the TS-520, excluding all others

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-27 21:50:24 UTC
From: <kd8cgf@...>
Topic: 47223 Message: 47223

I don't know a term that will distinguish between specific messages mentioning this specific Kenwood model & the name of this group "ts-520_820_530_830" which seems to appear in every message posted.

47224. RE: TS830S Unstable on 10M - no output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-28 02:25:42 UTC
From: <dlacroix@...>
Topic: 46900 Message: 47224

This is just 10M band. There are times when I have full ALC deflection, then it drops to zero like snapping your finger. I figured I might have to chase it with a probe.
Here's what I see:

20M --> Drive at 3 o'clock --> ALC 80% full --> TP 4= -1.1VDC, no AC reading
15M --> Drive at 1 o'clock --> ALC 80% full --> TP4 = -2.0VDC, no AC
10M --> Drive at 1 o'clock --> ALC 0% --> TP4 = -0.2VDC, nop AC

Watched the meter as I adjusted the drive and it was climbing as the drive control hit the limit.

---In TS-520_820_530_830@yahoogroups.com, <wagstw46@...> wrote:

Is it doing this just on 10 meters or on all bands?

If you have a single diode RF probe start by measure/monitoring the RF drive level at output of the TX Mixer at TP-4 on RF board. The Service Manual has the TX Level Diagrams on page 44 of the 3rd edition.

Should be 2 to 3 rms rf volts depending on the band.

Terry K9TW

47225. RE: TS830S Unstable on 10M - no output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-28 03:50:28 UTC
From: <wagstw46@...>
Topic: 46900 Message: 47225

OK first of all take your readings with the SG switch off and the VFO at around 200. The ALC indication should peak at approx 1200 on properly aligned TS830. Start with the CAR level pot at 1200 (5) and if you dont get full scale ALC indication then run CAR pot full CW. If meter indication goes off scale just reduce CAR level to bring it back on scale.

You are seeing -DC volts at TP-4 due to orientation of your diode in your RF probe. You are reading peak AC drive voltage (at an RF rate) and the probe is converting it to DC and because of diode orientation you have to read it on the -dc mode of your VTVM or DMM. Only way to read AC RF drive at TP-4 is with an O-scope.

When you peak the ALC indication and then touch probe tip to TP-4 to take the RF drive voltage measurement your probe will likely detune the circuit and the ALC indication most likely will fall off. Peak the ALC indication before you touch or connect the RF probe to TP-4 and dont worry if it falls off when you contact the probe to take the reading. Your -2vdc reading is good but the -1vdc is a little low. Probably can be addressed with coil pack alignment. Of course 0.20vdc is bad.

Unfortunately this sounds like a bad bandswitch contact. Typically when you have no ALC indication or intermittent ALC indication on just one band it is often a bad Mixer tank coil bandswitch contact or a bad Drive tank coil contact or both. Losing the RF drive at TP-4 tells us that the Mixer tuned circuit isnt being seen at TP-4 on 10 meters. S1-4 switches in the proper Mixer tuned circuits at output of the TX Mixer Q6/Q7. It sounds like you have bad contacts at 10 meter position of S1-4.

If you had this problem on all bands then maybe a bad solder connection at the Driver tube socket or bad solder connections at the solder posts of VC-2 and VC-3 drive air variable capacitors.

There is one thing you can try to confirm if it is a bad contact and try only with the Screen Grid Switch OFF. DO NOT try this with SG switch on.

With CAR pot full CW, meter in ALC, Heaters on, VFO 200, CW mode, Flip to Send and gently move the bandswitch off of the 10 meters detent position on both sides as you watch the meter. Sometimes this wiping action can momentarily restore ALC indication. Once again make sure SG switch is off. Never want to do this with SG switch on as you would have rf circ current in the tank and you are not only changing the S1-4 contacts you are changing the S22 band switch contacts inside the PA cage and they are not made to break heavy RF current. They are there to select correct tank coil tap and correct amount of fixed padder caps. S22 should only be rotated when rig is in Rx mode if the SG switch is on.

If you get momentary ALC indication doing this test almost certain bad bandswitch contact. You could also have bad solder connections on the S1-4 vertical bandswitch board pins where mates with the coil pack board.

Before removing the RF board you could fold the Audio board over and remove metal access panel and look at soldering of the 10 pins for S1-4 deck.

Perhaps Dick W0NTA is following this thread and can offer other diagnostic tips. He is the bandswitch guru.

In my experience a well aligned TS830 with good Driver tube and good band switch contacts should get full scale ALC indication with the CAR level pot advanced no more than a maximum of 1000 to 1100 (position 4 or 5) with perhaps exception of 10 meter where you may have to open up to approx 1300 (position 6 or 7).

Terry K9TW

47226. RE: TS830S Unstable on 10M - no output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-28 03:59:02 UTC
From: <dlacroix@...>
Topic: 46900 Message: 47226

I tried your suggestion of rocking the bandswitch and there was no ALC on 28, when I hit 29M position I got full scale ALC. Beginning to think you're right about the switch contact. Can that be tested power off with ohmeter?

47227. Re: [TS-520_820_530_830] Searching messages specific to the TS-520, excluding all others

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-28 04:06:38 UTC
From: <basketoak@...>
Topic: 47223 Message: 47227

First, it is customary to identify yourself in this group....

Second, it would depend on what email program you are using, and how you are archiving emails...

Dave
KG4MGB

---- kd8cgf@... wrote:

==========
I don't know a term that will distinguish between specific messages mentioning this specific Kenwood model & the name of this group "ts-520_820_530_830" which seems to appear in every message posted.
--
Dave Beadner

47228. Message signatures

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-28 04:14:06 UTC
From: W5RKL
Topic: 47228 Message: 47228

To ALL members,

I continue to see a number of members who are posting messages that do not contain an acceptable signature at the end of their messages. There is no excuse for a member not adhering to the group's message signature rule!!

An acceptable message signature is one of the following:

1. For licensed hams, first name and call sign
or
2. For non-licensed hams, first name only

SCREEN NAMES are NOT acceptable message signatures. Screen Names are acceptable ONLY as part of a member's e-mail address.

This is not a complicated or time consuming requirement. All it takes is for members to pay attention and ensure they have included an acceptable message signature at the end of their messages BEFORE the message is sent!

73
Mike W5RKL
Moderator TS_520_820_530_830 Group

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

47229. RE: TS830S Unstable on 10M - no output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-28 04:25:04 UTC
From: <wagstw46@...>
Topic: 46900 Message: 47229

Well easy to get to the wiper of S1-4. Can clip a mini-grabber test lead in the square window cut in the hair pin loop. This is at approx 1130 position looking down at top edge of the red/brown switch wafer board. Only way I know to get to the bandswitch contact side is at the pin solder pad on the foil side of the board. This requires folding over AF board and removing metal access plate.

If you use a DMM to measure connect your meter test leads and any mini-grabber or other test leads you will use together and measure the resistance and record the value. Will need to subtract that from reading you get to get the contact resistance.

You are actually measuring two contacts in series....the wiper and the individual tuned circuit contact. Since the wiper contact is there for all bands you know it is OK.

Ohmmeter is not best way to do this as pushes no current but will give you an idea. A very good contact would be on the order of 50 to 100 milli-ohms. What you can do is measure resistance of contact where you have good ALC indication and use it for baseline reference.

Terry K9TW

47230. Re: [TS-520_820_530_830] Searching messages specific to the TS-520, excluding all others

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-28 05:19:16 UTC
From: Joseph Stiles
Topic: 47223 Message: 47230

Dave,

You can go to the "home page" of this group, under the picture of that wonderful Kenwood station, click on "conversations." Above that fine picture, enter your search criteria in the box that says "search conversations.".....say "TS-530S bias"...for example...and click on the box to the right that says "search groups." The more specific you are the better...so if you enter "bias" you are likely to get every msg/post with "bias' in it...maybe several hundred or more.

On a side note: please remember the group's identification policy...TNX

73 Joe
WB7UQU
TS-520_820_530_830 yahoo group Co- Owner

On Monday, January 27, 2014 8:06 PM, "basketoak@..." <basketoak@...> wrote:

>First, it is customary to identify yourself in this group....
>
>Second, it would depend on what email program you are using, and how you are archiving emails...
>
>Dave
>KG4MGB
>
>---- kd8cgf@... wrote:
>
>==========
>I don't know a term that will distinguish between specific messages mentioning this specific Kenwood model & the name of this group "ts-520_820_530_830" which seems to appear in every message posted.
>--
>Dave Beadner
>
>
>
>
>

47231. Replacement RL-1 TS530/830 Aux Relay

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-28 18:31:31 UTC
From: <wagstw46@...>
Topic: 47231 Message: 47231

I just got word from Ken Kempski K4EAA that he is out of the replacement Omron LZN4 4PDT flat pack RL-1 Aux relay. I notice on HybridRestore site that Jim is also out of stock. I have done some internet search and cant find replacement source.

A Panasonic, Aromat, Matsushita NF4EB-12V is an exact replacement. Mouser, Newark, Allied, and Digikey no longer stock them.

Does anyone know of a source for these and preferably in the $25.00 range?

I have a customers TS-530 here that needs one.

Thanks
Terry K9TW

47232. Re: [TS-520_820_530_830] Replacement RL-1 TS530/830 Aux Relay

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-28 18:40:42 UTC
From: Mark Gilger
Topic: 47231 Message: 47232

Someone, at one time or another gave me the
following Panasonic's that would work. They show
them as in stock. Is there a cross reference out there that might help?

http://www.onlinecomponents.com/keywordsearch.aspx?text=nf4eb-12v

Mark, WB0IQK

At 01:31 PM 1/28/2014, wagstw46@... wrote:
>
>
>
>I just got word from Ken Kempski K4EAA that he
>is out of the replacement Omron LZN4 4PDT flat
>pack RL-1 Aux relay. I notice on HybridRestore
>site that Jim is also out of stock. I have done
>some internet search and cant find replacement source.
>
>A Panasonic, Aromat, Matsushita NF4EB-12V is an
>exact replacement. Mouser, Newark, Allied, and Digikey no longer stock them.
>
>Does anyone know of a source for these and preferably in the $25.00 range?
>
>I have a customers TS-530 here that needs one.
>
>Thanks
>Terry K9TW
>

47233. Reply from Int'l Crystal Mfg. in re HET-OSC board 10M replacement crystals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-28 20:05:13 UTC
From: Wes Will
Topic: 47233 Message: 47233

I've been corresponding with the folks at International Crystals in Oklahoma. Nice folks, really sharp. Really up on their field, too, that's for certain.

I got the following request which, not having the crystals in the first place (the entire problem!), I cannot give them an answer.

> Do you have a sample crystal so we can test for load?

No, I do not have a sample crystal to return to test for load. I have two off-frequency crystals which do NOT work well at all. Those won't do.

Just for curiosity's sake, I tried to tune the rig up on the dummy load on the CB frequencies that the two 10-meter band-switch segments now provide instead. It didn't "play well," not at all....

I stopped really quickly, nothing seems to be harmed but I didn't like the sounds I heard for the half-second the key was down.

The rest of the email goes on:

> If not we can use the
> specifications ICM has on file but we cannot guarantee it. so worst case
> scenario without a sample you would purchase the crystals and if they are
> not on frequency return them with the readings for low, mid, and high trim
> to six digits past the decimal xx.xxxxxx and then purchase another set so we
> can get the load correct for your radio. We have found that over the years
> these radios have been in service the components age and then the load can
> be vastly different from radio to radio.

Sounds to me like it's going to cost me TWICE, at least, and that's only if I can provide lab-grade-precision correction information to them.

So, any advice?

Do I take a chance that they've got good data on file and that the radio will re-align correctly and the oscillators will work?

Or is there perchance a couple of crystals out there in someone's box-o-stuff which they'll part with, 36.395 and 36.995 MHz, I believe it was (according to reliable list members and the Kenwood parts spec. list) to put back in this 520SE?

Inquiring minds would rather like to know. What's my best option here? Oh, and money IS an object, I can't keep shoveling cash into this box for much longer. Luckily this seems to be (other than the re-alignment

chores which I will have to do myself) about the last of it before it's back in pretty good shape. I hope.

--
Wes Will
N9KDY

47234. Re: [TS-520_820_530_830] Reply from Int'l Crystal Mfg. in re HET-OSC board 10M replacement crystals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-28 20:30:20 UTC
From: Mike W5RKL
Topic: 47233 Message: 47234

Wes,

If the leads are long enough on an original 10 meter crystal, ask Sarah Gore at International Crystals if you send a good crystals to use for load specs, will they ensure it's not damaged and it will be returned to you with the new crystals? You won't know until you ask her!

I have purchased crystals from International Crystal since 2007 for my Drake R4B, R4C, and T4XB, as well as crystals for my 1969 Regency scanners plus 2 old Johnson Messenger One and II converted to 10 meter AM, 11 meter transceivers. The crystals were within 100Hz of being on frequency.

I seem to remember I paid $22 per crystal plus a few dollars shipping for all of my crystals. I have been buying crystals from International Crystals since 2007 and never received a bad crystal!!!

73
Mike W5RKL

On 1/28/2014 2:05 PM, Wes Will wrote:
>
> I've been corresponding with the folks at International Crystals in
> Oklahoma. Nice folks, really sharp. Really up on their field, too,
> that's for certain.
>
> I got the following request which, not having the crystals in the first
> place (the entire problem!), I cannot give them an answer.
>
> > Do you have a sample crystal so we can test for load?
>
> No, I do not have a sample crystal to return to test for load. I have
> two off-frequency crystals which do NOT work well at all. Those won't do.
>
> Just for curiosity's sake, I tried to tune the rig up on the dummy load
> on the CB frequencies that the two 10-meter band-switch segments now
> provide instead. It didn't "play well," not at all....
>
> I stopped really quickly, nothing seems to be harmed but I didn't like
> the sounds I heard for the half-second the key was down.
>
> The rest of the email goes on:
>
> > If not we can use the
> > specifications ICM has on file but we cannot guarantee it. so worst case

> > scenario without a sample you would purchase the crystals and if
> they are
> > not on frequency return them with the readings for low, mid, and
> high trim
> > to six digits past the decimal xx.xxxxxx and then purchase another
> set so we
> > can get the load correct for your radio. We have found that over the
> years
> > these radios have been in service the components age and then the
> load can
> > be vastly different from radio to radio.
>
> Sounds to me like it's going to cost me TWICE, at least, and that's only
> if I can provide lab-grade-precision correction information to them.
>
> So, any advice?
>
> Do I take a chance that they've got good data on file and that the radio
> will re-align correctly and the oscillators will work?
>
> Or is there perchance a couple of crystals out there in someone's
> box-o-stuff which they'll part with, 36.395 and 36.995 MHz, I believe it
> was (according to reliable list members and the Kenwood parts spec.
> list) to put back in this 520SE?
>
> Inquiring minds would rather like to know. What's my best option here?
> Oh, and money IS an object, I can't keep shoveling cash into this box
> for much longer. Luckily this seems to be (other than the re-alignment
> chores which I will have to do myself) about the last of it before it's
> back in pretty good shape. I hope.
>
> --
> Wes Will
> N9KDY
>
>

47235. Re: [TS-520_820_530_830] Reply from Int'l Crystal Mfg. in re HET-OSC board 10M replacement crystals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-28 20:34:57 UTC
From: K5MYJ
Topic: 47233 Message: 47235

Buy the crystals that ICM can make to the Kenwood spec they have. They will probably be better than any used crystals you can buy.

There is more than one crystal that determines the final frequency. Any one of them can be out of spec.

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"
----- Original Message -----
From: Wes Will
To: TS-520 Yahoo Group List
Sent: Tuesday, January 28, 2014 12:05 PM
Subject: [TS-520_820_530_830] Reply from Int'l Crystal Mfg. in re HET-OSC board 10M replacement crystals

I've been corresponding with the folks at International Crystals in Oklahoma. Nice folks, really sharp. Really up on their field, too, that's for certain.

I got the following request which, not having the crystals in the first place (the entire problem!), I cannot give them an answer.

> Do you have a sample crystal so we can test for load?

No, I do not have a sample crystal to return to test for load. I have two off-frequency crystals which do NOT work well at all. Those won't do.

Just for curiosity's sake, I tried to tune the rig up on the dummy load on the CB frequencies that the two 10-meter band-switch segments now provide instead. It didn't "play well," not at all....

I stopped really quickly, nothing seems to be harmed but I didn't like the sounds I heard for the half-second the key was down.

The rest of the email goes on:

> If not we can use the
> specifications ICM has on file but we cannot guarantee it. so worst case
> scenario without a sample you would purchase the crystals and if they are
> not on frequency return them with the readings for low, mid, and high trim
> to six digits past the decimal xx.xxxxxx and then purchase another set so we
> can get the load correct for your radio. We have found that over the years
> these radios have been in service the components age and then the load can
> be vastly different from radio to radio.

Sounds to me like it's going to cost me TWICE, at least, and that's only if I can provide lab-grade-precision correction information to them.

So, any advice?

Do I take a chance that they've got good data on file and that the radio will re-align correctly and the oscillators will work?

Or is there perchance a couple of crystals out there in someone's box-o-stuff which they'll part with, 36.395 and 36.995 MHz, I believe it was (according to reliable list members and the Kenwood parts spec. list) to put back in this 520SE?

Inquiring minds would rather like to know. What's my best option here? Oh, and money IS an object, I can't keep shoveling cash into this box for much longer. Luckily this seems to be (other than the re-alignment chores which I will have to do myself) about the last of it before it's back in pretty good shape. I hope.

--
Wes Will
N9KDY

47236. Re: [TS-520_820_530_830] Reply from Int'l Crystal Mfg. in re HET-OSC board 10M replacement crystals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-28 20:35:46 UTC
From: Wes Will
Topic: 47233 Message: 47236

On 01/28/2014 02:30 PM, Mike W5RKL wrote:
>
>
> Wes,
>
> If the leads are long enough on an original 10 meter crystal, ask Sarah
> Gore at International Crystals if you send a good crystals to use for
> load specs, will they ensure it's not damaged and it will be returned to
> you with the new crystals? You won't know until you ask her!

Sarah is who I'm dealing with at ICM. Problem. I don't HAVE 'good crystals' to send her. Lead length bedeviled.

> I have purchased crystals from International Crystal since 2007 for my
...
> for all of my crystals. I have been buying crystals from International
> Crystals since 2007 and never received a bad crystal!!!

Their quality is not the question. You already vouched for them, as did others, and that's plenty good for me.

I'm going to take the advice from Bob/K5MYJ, whose email arrived seconds after yours, and give them a whack as-is. I was pretty certain that I was going to have to go that route anyway, and I was fairly certain I could correct any small off-frequency behaviour down-stream of the HET-OSC board anyway. He confirmed that, in so many words, as well as giving a 100-Hz recommendation on their crystal-lapping accuracy to go along with your good words.

I suspect the price is a bit higher these days, but it shouldn't be too out of reach.

I'm about to order them. I'll mention both your good words regarding their service and products to Sarah.

Thanks again, guys.

--
Wes Will
N9KDY

47237. Re: [TS-520_820_530_830] Replacement RL-1 TS530/830 Aux Relay

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-28 20:42:27 UTC
From: Mike W5RKL
Topic: 47231 Message: 47237

Mark,

That's the same relay Ken, K4EAA, was selling. I have one of Ken's relays here as a spare, (NF4EB-12V), and I checked the data sheet from the link you provided, compared the pin layout and pin continuity and they are the same. Sorry, I won't sell my spare relay.

iiiC.cc has the same relay for $17.13 a piece but the minimum order is "20" which makes the total price $342.60 then there's shipping cost to consider.

Although onlinecomponents.com's price is rather high, $43.78 each, these "specialty parts" are becoming rather difficult to find. Pulling one from a parts radio is not advisable, quite often results in damaging the relay plus the relay itself most likely will have the same problem(s) your trying to eliminate.

73
Mike W5RKL

On 1/28/2014 12:40 PM, Mark Gilger wrote:
>
> Someone, at one time or another gave me the following Panasonic's that
> would work. They show them as in stock. Is there a cross reference out
> there that might help?
>
> http://www.onlinecomponents.com/keywordsearch.aspx?text=nf4eb-12v
>
> Mark, WB0IQK
>
>
> At 01:31 PM 1/28/2014, wagstw46@... wrote:
>
>>
>>
>>
>> I just got word from Ken Kempski K4EAA that he is out of the
>> replacement Omron LZN4 4PDT flat pack RL-1 Aux relay. I notice on
>> HybridRestore site that Jim is also out of stock. I have done some
>> internet search and cant find replacement source.
>>
>> A Panasonic, Aromat, Matsushita NF4EB-12V is an exact replacement.
>> Mouser, Newark, Allied, and Digikey no longer stock them.
>>
>> Does anyone know of a source for these and preferably in the $25.00
>> range?

>>
>> I have a customers TS-530 here that needs one.
>>
>> Thanks
>> Terry K9TW
>
>

47238. BAsic Radio Course

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-28 17:56:10 UTC
From: <kmx888@...>
Topic: 47238 Message: 47238

I was killing time and trolled through a few website of our more well known members. One of them said that he got a great deal of good from a book entitled "Basic Radio Course" by John T. Frye. The book can be hard to find as it is long out of print but I did find a paperback on Amazon. I had to look several times The price was about $15.

"Basic Radio Course" is the best book on radios that I have ever read. Most texts or articles are highly technical and go into great detail and can lose you pretty fast.
For the first time this book taught me about how radios work and why in simple easy to understand language. I cannot recommend it enough to anyone that is not deeply immersed in the art of repair and understanding. It can be a bit hard to find but is well worth it.
Kevin
KD0ILM/XV2KM

47239. Re: [TS-520_820_530_830] Reply from Int'l Crystal Mfg. in re HET-OSC board 10M replacement crystals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-28 20:55:25 UTC
From: K5MYJ
Topic: 47233 Message: 47239

Wes,

Keep us posted on your results.

Do you have a counter?

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"
----- Original Message -----
From: "Wes Will" <wwill@...>
To: <TS-520_820_530_830@yahoogroups.com>
Sent: Tuesday, January 28, 2014 12:35 PM
Subject: Re: [TS-520_820_530_830] Reply from Int'l Crystal Mfg. in re
HET-OSC board 10M replacement crystals

> On 01/28/2014 02:30 PM, Mike W5RKL wrote:
>>
>>
>> Wes,
>>
>> If the leads are long enough on an original 10 meter crystal, ask Sarah
>> Gore at International Crystals if you send a good crystals to use for
>> load specs, will they ensure it's not damaged and it will be returned to
>> you with the new crystals? You won't know until you ask her!
>
> Sarah is who I'm dealing with at ICM. Problem. I don't HAVE 'good
> crystals' to send her. Lead length bedeviled.
>
>> I have purchased crystals from International Crystal since 2007 for my
> ...
>> for all of my crystals. I have been buying crystals from International
>> Crystals since 2007 and never received a bad crystal!!!
>
> Their quality is not the question. You already vouched for them, as did
> others, and that's plenty good for me.
>
> I'm going to take the advice from Bob/K5MYJ, whose email arrived seconds
> after yours, and give them a whack as-is. I was pretty certain that I
> was going to have to go that route anyway, and I was fairly certain I
> could correct any small off-frequency behaviour down-stream of the
> HET-OSC board anyway. He confirmed that, in so many words, as well as
> giving a 100-Hz recommendation on their crystal-lapping accuracy to go
> along with your good words.

>
> I suspect the price is a bit higher these days, but it shouldn't be too
> out of reach.
>
> I'm about to order them. I'll mention both your good words regarding
> their service and products to Sarah.
>
> Thanks again, guys.
>
> --
> Wes Will
> N9KDY
>
>
> ------------------------------------
>
> Yahoo Groups Links
>
>
>

47240. Re: [TS-520_820_530_830] Replacement RL-1 TS530/830 Aux Relay

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-28 20:54:44 UTC
From: <wagstw46@...>
Topic: 47231 Message: 47240

Mark:

Yes this is the NF4EB-12V which is the correct relay which is a direct sub for the original Omron LZN4 relay. I have several of these in my stock I bought couple of years ago from Mouser. I want to keep them as spares for my personal rigs.

I have never seen another sub by any other manufacturer. I found these same ones you present here during my Google search, but I just hate to pay nearly $50.00 for one unless that is the state we find ourselves in now. I guess I wasnt clear on that?

Thanks for your efforts. Hopefully someone will have a source, but I am suspecting not. Those that have these know what they have. Ken hasnt given up on finding a source but wont help me with current need for customers rig. Dick Housden is also looking.

Terry K9TW

47241. Re: [TS-520_820_530_830] TS830S: 220 or 240 VAC?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-28 20:47:41 UTC
From: Kenneth Nachtman
Topic: 46996 Message: 47241

A little late here, but that voltage setting is as close as your going to get with your mains voltage supply, Peter.

Ken

KD8DWO

On Tuesday, January 14, 2014 4:36 PM, "ravnpeter@..." <fasan5@...> wrote:

When I got my TS830s last year, the power switch on the rear was set to 240 VAC.It is still there. Main line voltages in my house are, however, 225 VAC, so one would assume that the switch should be set to 220VAC.

73
Peter OZ8CTH

47242. Re: [TS-520_820_530_830] Reply from Int'l Crystal Mfg. in re HET-OSC board 10M replacement crystals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-28 21:19:01 UTC
From: <wagstw46@...>
Topic: 47233 Message: 47242

This is odd. I like Mike have ordered from Sarah more than once and never been asked this before. They have always provided a crystal based on the KW factory specs they have on file.

Perhaps you should send her a copy of the Het Osc circuit schematic so they can see it is a FET based oscillator.

I believe the crystals are 20pf, but not 100% certain.

I am not sure what part of the oscillator circuit is changing over time that would preclude using the original KW crystal specs that they have on file and of course no way for you to know how the oscillator components may have changed.

I guess she is saying if you have any good Het Osc xtal that is mixing with the TIF signal to produce the proper TX output signal from the TX Mixer then send it along and they will measure it and make one like it.

The Het Osc Xtals will have aged with time and that may be what she is really saying?

The 5mhz VFO mixes with the 3.395 Carrier Osc to produce the 8.8 mhz TIF signal. 8.8 mhz TIF mixes with Het Osc and the difference frequency is your actually transmit frequency.

There is no further mixing scheme after the TX Mixer to worry about.

Terry K9TW.

47243. Re: [TS-520_820_530_830] Replacement RL-1 TS530/830 Aux Relay

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-28 21:29:22 UTC
From: Mark Gilger
Topic: 47231 Message: 47243

I see the NF4EB-12V are $43 each, but the -1 and
-A ones are much cheaper. Any idea what the
difference is and maybe they would work?

http://www.onlinecomponents.com/keywordsearch.aspx?text=nf4eb-12v

Mark, WB0IQK

At 03:42 PM 1/28/2014, Mike W5RKL wrote:
>
>
>Mark,
>
>That's the same relay Ken, K4EAA, was selling. I
>have one of Ken's relays here as a spare,
>(NF4EB-12V), and I checked the data sheet from
>the link you provided, compared the pin layout
>and pin continuity and they are the same. Sorry, I won't sell my spare relay.
>
>iiiC.cc has the same relay for $17.13 a piece
>but the minimum order is "20" which makes the
>total price $342.60 then there's shipping cost to consider.
>
>Although onlinecomponents.com's price is rather
>high, $43.78 each, these "specialty parts" are
>becoming rather difficult to find. Pulling one
>from a parts radio is not advisable, quite often
>results in damaging the relay plus the relay
>itself most likely will have the same problem(s) your trying to eliminate.
>
>73
>Mike W5RKL
>
>
>
>
>
>On 1/28/2014 12:40 PM, Mark Gilger wrote:
>>
>>
>>Someone, at one time or another gave me the
>>following Panasonic's that would work. They
>>show them as in stock. Is there a cross reference out there that might help?
>>
>>http://www.onlinecomponents.com/keywordsearch.aspx?text=nf4eb-12v
>>

>>Mark, WB0IQK
>>
>>
>>At 01:31 PM 1/28/2014, <mailto:wagstw46@yahoo.com>wagstw46@... wrote:
>>>
>>>
>>>
>>>I just got word from Ken Kempski K4EAA that he
>>>is out of the replacement Omron LZN4 4PDT flat
>>>pack RL-1 Aux relay. I notice on HybridRestore
>>>site that Jim is also out of stock. I have
>>>done some internet search and cant find replacement source.
>>>
>>>A Panasonic, Aromat, Matsushita NF4EB-12V is
>>>an exact replacement. Mouser, Newark, Allied,
>>>and Digikey no longer stock them.
>>>
>>>Does anyone know of a source for these and preferably in the $25.00 range?
>>>
>>>I have a customers TS-530 here that needs one.
>>>
>>>Thanks
>>>Terry K9TW
>
>

47244. Re: [TS-520_820_530_830] BAsic Radio Course

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-28 22:13:01 UTC
From: Thomas Bewick
Topic: 47238 Message: 47244

It seems gone from Amazon now, someone must have bought it. Maybe next time, if one shows up at a reasonable price.
Only a hardcover for $50 on there now.
73, Tom, k2bew

47245. Re: [TS-520_820_530_830] BAsic Radio Course

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-28 23:40:21 UTC
From: W5RKL
Topic: 47238 Message: 47245

Kevin,

The book is difficult to find in either hard or soft copy at a reasonable price. However, there is an ebay seller who is selling the 1951 edition on CD under eBay ad #200692897318 for $8.99 plus $2.50 shipping. I purchased the CD to see what differences, if any, it had when compared to the 1961 hard copy edition I have. The only section that is missing in the CD's 1951 edition is the intro to transistors. Some of the pictures of test equipment are different but the text is the same.

I have been recommending this book on the group for a long time to anyone who want to learn electronics from the beginning.

73
Mike W5RKL

On 1/28/2014 11:56 AM, kmx888@... wrote:
>
> I was killing time and trolled through a few website of our more well
> known members. One of them said that he got a great deal of good from
> a book entitled "Basic Radio Course" by John T. Frye. The book can be
> hard to find as it is long out of print but I did find a paperback on
> Amazon. I had to look several times The price was about $15.
>
>
> "Basic Radio Course" is the best book on radios that I have ever read.
> Most texts or articles are highly technical and go into great detail
> and can lose you pretty fast.
> For the first time this book taught me about how radios work and why
> in simple easy to understand language. I cannot recommend it enough to
> anyone that is not deeply immersed in the art of repair and
> understanding. It can be a bit hard to find but is well worth it.
> Kevin
> KD0ILM/XV2KM
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

47246. Re: [TS-520_820_530_830] Why oh WHY can't I get a break? TS520SE, fixed the DG5. 28,5 and 29.0 bands give 27. MHz.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-12 11:16:53 UTC
From: Wes Will
Topic: 46940 Message: 47246

On 01/12/2014 04:06 AM, Gordon JC Pearce wrote:
> While I agree it wasn't quite as described, it's not such a big
> deal compared to all the other things that were wrong with it -

It is mostly that there is ANOTHER thing wrong with it. I was -so-
close to being able to just USE the thing, and now -this-. Just
frustration, mostly. It never rains, but why won't it stop POURING?

> and I don't see that the other faults were necessarily down to the
> 27MHz conversion.

No, there likely isn't much correlation between the conversion and
several of the problems. But I do think that there MIGHT be some
connection with the noise figure problem I've been seeing, and the
really odd alignment which has been giving troubles. It's possible
there is some connection there. Being forced to be on CB didn't knock
that screw onto the high-voltage bus, that's for certain. CB is a pain,
but it's not THAT bad.... (Is it? ;-)

> There seems to be an attitude among certain elements of the community
> that if an HF set has been modified for CB, then even if it's
> adjusted back it will never be "pure" somehow, and that it will
> have been permanently damaged.

Now that's just silly. Again, it's just the "ONE MORE!" dropping out of
the blue and hitting me up-side the head. For a "perfect working order"
rig, this thing sure has cost me a lot of bench time, and more yet to come.

> If you dig back through the mailing list (I know, the web interface is
> hideous)

Worse. Nigh-unusable. The Yahooligans really need to do something about
this mess they've created in the name of "Moahr PROFITZES!"

I've taken to using the site: tag in a search engine and indexing it
from OTHER than their interface. And I do NOT use the web interface for
posting nor reading emails. THAT is what an email client program such
as Thunderbird is for....

then others have trod this path before. It starts with checking what
> crystals are actually fitted, and seeing what replacements you need to get.

Crystals I already figured. But are there OTHER things, such as coil or
capacitor changes that need to be done (un-done!) as well? Re-aligning
it, for certain. Hoping like the dickens that the buffoon who did this
didn't crack a coil core, or mangle anything important doing the dirty deed.

> As an aside, the VFO on my TS520 goes far enough "below 0" to get the
> top three or four channels of the UK CB allocation - but obviously doesn't do FM ;-)

No, but a DSP 'antenna analyzer' like the Micro908 (being repaired now (by the designer and engineer of the little beastie, at Midnight Designs, N2APB) apparently can be interfaced with these hybrids to provide AM, or so they keep telling me. That little box, hooked in correctly, can become a full PSK31 modem, with or without a computer, an electronic keyer, an automated Morse receiver and automated Morse transmitter, and a bunch of other things. Maybe even FM, though I don't see as that's really possible.

Sounds like too good to be possible, but I know at least some of that is being done, like the PSK31 and the keyboard Morse stuff. We;ll see about the rest.

I hope nothing too weird has been done, that I cannot find and un-do it. At last it was accomplished properly (as if there was any such thing!), and the rest of the rig seems to still be stable and in more or less working order now.

Wish me luck, Here goes Nuthin'!

--
Wes Will
N9KDY

47247. Re: [TS-520_820_530_830] BAsic Radio Course

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-29 01:10:58 UTC
From: Jim
Topic: 47238 Message: 47247

Another good one is "Principles of Radio" by Keith Henney and Glen Richardson, published by John Wiley and Sons. I have the sixth edition, which was published in 1952.

Only has a couple of pages that detail transistors- Looks like there are several copies available on Amazon for cheap.

Jim, KC1RM

47248. RE: TS830S Unstable on 10M - no output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-29 05:34:02 UTC
From: <dlacroix@...>
Topic: 46900 Message: 47248

Ok, I got a wild hair and folded over the AF board and touched up all the bandswitch contact solder joints. Put it all back together and was hoping for success but no improvement.

47249. RE: TS830S Unstable on 10M - no output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-29 11:51:15 UTC
From: <wagstw46@...>
Topic: 46900 Message: 47249

Did you try to measure contact string resistance and watch it as you rocked the band switch to make sure you were on the 10 meter mixer tuned circuits? If contact is bad which is the more common problem then touching up the solder at board pins wont help.

Actually the contacts themselves are seldom the problem accept for those that have been damaged by people using right angle cleaning tools that bend or spread them. fortunately hard for them to get to the back side of the contact. The most common source of the high resistance and intermittent rf drive problems is the rivet to pc trace contact area. It has lost its pressure and has oxidized.

Only way to fix this is to remove board and clean the oxide off with caustic cleaner, dremel tool, X-acto knife etc and then to solder the rivet to the trace or use the silver pen method. I prefer to solder but not go crazy.

In this path you have essentially 4 places for IR drop. At the wiper contact, at the tank circuit contact, at the rivet to pc trace interface, and at the board pin solder. All four in series and in my experience the problem child is the rivet to pc trace.

When you get done with repair need to measure the resistance of that series string to make sure you have really affected a repair. You cannot press on the contacts to restore low resistance. You might be able to give a very slight twist, but I would not mess with either contact until I fixed the rivet to trace interface and then measure the resistance. You can do that with DMM or ESR bridge or dc bench supply and apply 6vdc @ 1 amp and read millivolt drop across the string.

Terry K9TW

---In TS-520_820_530_830@yahoogroups.com, <dlacroix@...> wrote:

Ok, I got a wild hair and folded over the AF board and touched up all the bandswitch contact solder joints. Put it all back together and was hoping for success but no improvement.

47250. Re: [TS-520_820_530_830] BAsic Radio Course

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-29 13:54:42 UTC
From: Thomas Bewick
Topic: 47238 Message: 47250

Kevin,
Thanks for the info on the CD version on eBay.
I just bought one and suspect you sold a few for that guy.
I saw a hard copy sold on eBay cheap yesterday too, and I do hope it went
to a forum member.
Terry K92W had just told me about this book about a week ago but I was busy
working a few 12 hr shifts in a row and didn't search for one at the timw,
so missed on the cheaper hard copies, but I think the PDF on the CD will
serve me well since I can send it to my kindlefire and read it on there
too, I am glad it is the early version that is more focused on tube radios.
73,
Tom K2BEW

On Tue, Jan 28, 2014 at 6:40 PM, W5RKL <w5rkl@...> wrote:

>
>
> Kevin,
>
> The book is difficult to find in either hard or soft copy at a reasonable
> price. However, there is an ebay seller who is selling the 1951 edition on
> CD under eBay ad #200692897318 for $8.99 plus $2.50 shipping. I purchased
> the CD to see what differences, if any, it had when compared to the 1961
> hard copy edition I have. The only section that is missing in the CD's 1951
> edition is the intro to transistors. Some of the pictures of test equipment
> are different but the text is the same.
>
> I have been recommending this book on the group for a long time to anyone
> who want to learn electronics from the beginning.
>
> 73
> Mike W5RKL
>
>
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> On 1/28/2014 11:56 AM, kmx888@... wrote:
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>
>
> I was killing time and trolled through a few website of our more well
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> find as it is long out of print but I did find a paperback on Amazon. I had

> to look several times The price was about $15.
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> can lose you pretty fast.
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> be a bit hard to find but is well worth it.
> Kevin
> KD0ILM/XV2KM
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> ----------
> <http://www.avast.com/>
>
> This email is free from viruses and malware because avast!
Antivirus<http://www.avast.com/>protection is active.
>
>
>

47251. Re: [TS-520_820_530_830] BAsic Radio Course

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-29 16:05:32 UTC
From: W5RKL
Topic: 47238 Message: 47251

Tom,

I am the one, not Kevin, who posted the information about John T. Fryes 1951 edition of his "Basic Radio Course" being sold on a CD by an eBay seller under eBay ad #200692897318.

I have not made available nor have I sold any John T. Frye "Basic Radio Course" book on CDs, on eBay or any other online auction website or even privately.

I simply bought the CD from the eBay seller to compare it against the 1961 hard copy edition I have to see what differences, if any, the 1951 CD edition has. As I said, the only difference I can see is the CD's 1951 edition does not have the intro to transistors and some of the test equipment pictures are different. Other than that the book's text is the same.

The Basic Radio Course by John T. Frye is becoming very difficult to find. I found my hard cover copy, 1961 edition, at a used book store for $2.00. Local libraries may have it but one would have to check with their local library for the availability of the book.

73
Mike W5RKL

On 1/29/2014 7:54 AM, Thomas Bewick wrote:
> Kevin,
> Thanks for the info on the CD version on eBay.
> I just bought one and suspect you sold a few for that guy.
> I saw a hard copy sold on eBay cheap yesterday too, and I do hope it
> went to a forum member.
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> read it on there too, I am glad it is the early version that is more
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> Tom K2BEW
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> On Tue, Jan 28, 2014 at 6:40 PM, W5RKL <w5rkl@...
> <mailto:w5rkl@...>> wrote:
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> Kevin,
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> The book is difficult to find in either hard or soft copy at a
> reasonable price. However, there is an ebay seller who is selling
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> any, it had when compared to the 1961 hard copy edition I have.
> The only section that is missing in the CD's 1951 edition is the
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> different but the text is the same.
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> anyone who want to learn electronics from the beginning.
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> 73
> Mike W5RKL
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>
>
>
>
>
> On 1/28/2014 11:56 AM, kmx888@... <mailto:kmx888@...> wrote:
>>
>> I was killing time and trolled through a few website of our more
>> well known members. One of them said that he got a great deal of
>> good from a book entitled "Basic Radio Course" by John T. Frye.
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>> "Basic Radio Course" is the best book on radios that I have ever
>> read. Most texts or articles are highly technical and go into
>> great detail and can lose you pretty fast.
>> For the first time this book taught me about how radios work and
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>> and understanding. It can be a bit hard to find but is well worth
>> it.
>> Kevin
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http://www.avast.com

47252. INRAD filter substitution

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-29 17:41:43 UTC
From: Craig Roberts
Topic: 47238 Message: 47252

Hiya fellas,

Last night I replaced my 530's stock SSB filter with an 8-pole 2.8 KHz gem from INRAD. It sounds terrific on receive and transmit audio reports are flattering.

Anyone else made the swap and is a re-alignment indicated?

Thanks and 73,

Craig
W3CRR

>>>
>>>
>>>
>>>
>>>
>>>

47253. Re: BAsic Radio Course

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-29 17:30:23 UTC
From: Kevin Mahoney
Topic: 47238 Message: 47253

It was actually Mike W5RKL that came up with the idea about the CD.
By way of explanation 40 years ago I studied Electronics at the college level. I was capable of designing basic audio amplifiers etc.to a spec. However I learned to do it using math. It was remarkable to me that the entire thing breaks down to math and then you find components to fit the math. This was fine and well but only gave me a narrow focus and no practical experience. Over the years the basic principles have stuck with me but little else.

I have memorized and learned enough to pass my General but that only scratches the surface when it comes to staring at a radio with problems. I find most books are way too detail oriented to give me a good grasp of what I am looking at. For me if I understand the basic building blocks from a practixal point of view the rest comes with time.

I restore old cars and when I get a new one to work on I buy all of the different repair manuals that I can find. Each is written from a particular point of view. I always fine something in one that I can't find in another or it clarifies something that may not be clear. I think radio books are the same way.

This is not the worlds best radio book, but it is a great primer at least for me. It was Mikes page that first pointed me at it and I have really enjoyed it. I will not pick up the other book mentioned here.
Kevin
KD0ILM

kmx888@...

47254. RE: INRAD filter substitution

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-29 18:22:43 UTC
From: <wagstw46@...>
Topic: 47238 Message: 47254

Craig

Anytime you change filters it is good idea to bring the Carrier Osc to the filter. You cant do anything about the filter response curve. All you can do is decide where you want to insert the carrier oscillator.

Some call it adjusting the carrier "set point". The Service manual has you adjust the SSB transmit frequency response using AF generator and Wattmeter and injecting low millivolt level audio into mic line and adjusting the LSB and USB carrier oscillator trimmer caps for equal 3dB roll-off at 300hz and 2700hz.

Some fellows do it by ear. Others do it using the Marker and S-meter zero beat method (described in Survival guide) and other uses Spectrum Analyzer including Audio Spectrum Analyzer software like Spectro-gram and a noise bridge.

I normally do it with AF sig gen and wattmeter and then check it with Spectro-gram and run a copy of the as left response for the customer. I explain to them how to adjust the trimmers if they do not like the response where I leave it as it is a user preference adjustment. Some like more bass and others more treble presence for communications audio especially if running barefoot and chasing DX. How you adjust for Rx is how it will sound in Tx and vice versa.

Terry K9TW

47255. RE: INRAD filter substitution

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-29 18:44:16 UTC
From: <wagstw46@...>
Topic: 47238 Message: 47255

Craig

I forgot to mention that if you use the audio or function generator method you need a way to make sure the millivolt level does not change as you adjust the frequency from 300 to 2700 hz. More sophisticated generators have an ALC circuit and the output level stays constant as you adjust the output frequency. Absent that you need a way to measure 5 to 10 millivolts AF level so you can check and adjust it as you move frequency.

I dont have a lab grade function generator, but I do have a good HP true RMS AF voltmeter so I can make sure my low level audio is same.

The average ham is probably better served using the Marker / S-meter zero beat method or audio spectrum analyzer soft ware.

Good thing is it is pretty hard to get in trouble. When done just turn AF gain up and go to clear channel and flip back and forth between LSB and USB to see if background hiss is close to same tone. Other thing you can do is also listen to self on another receiver.

If you are happy with how the Inrad Rx sounds now and the off air Tx reports you are getting just leave Car Osc set as they are now.

Terry K9TW

47256. Re: [TS-520_820_530_830] RE: INRAD filter substitution

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-29 19:53:09 UTC
From: Mark Gilger
Topic: 47238 Message: 47256

AF generator has always worked good for me.
Mark, WB0IQK

At 01:22 PM 1/29/2014, wagstw46@... wrote:
>
>
>Craig
>
>
>Anytime you change filters it is good idea to bring the Carrier Osc
>to the filter. You cant do anything about the filter response curve.
>All you can do is decide where you want to insert the carrier oscillator.
>
>
>Some call it adjusting the carrier "set point". The Service manual
>has you adjust the SSB transmit frequency response using AF
>generator and Wattmeter and injecting low millivolt level audio into
>mic line and adjusting the LSB and USB carrier oscillator trimmer
>caps for equal 3dB roll-off at 300hz and 2700hz.
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>other uses Spectrum Analyzer including Audio Spectrum Analyzer
>software like Spectro-gram and a noise bridge.
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>not like the response where I leave it as it is a user preference
>adjustment. Some like more bass and others more treble presence for
>communications audio especially if running barefoot and chasing DX.
>How you adjust for Rx is how it will sound in Tx and vice versa.
>
>
>Terry K9TW
>
>

47257. new member with a small 520 fault

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-29 19:44:41 UTC
From: Greg Lamey
Topic: 47257 Message: 47257

Greetings from "bloody hot" South Australia

recently purchased a 520 which I am having a small problem with and need to discount "operator error" as the probable cause.

In "tune" mode I can not get any reading at all on the meter to dip the plate, however when I switch to full power [CW] I can then dip the plate and get rated power out.

I am not familiar with the Kenwoods, so appreciate any tips.

73s

Greg VK5LG

47258. Re: BAsic Radio Course

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-29 17:45:42 UTC
From: <kmx888@...>
Topic: 47238 Message: 47258

Whoops meant to say that I WILL pick up Principles of Radio. Just found one for $5.18 shipped to me door.
Kevin
KDoILM

47259. Re: [TS-520_820_530_830] Nylon gear collar repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-29 19:37:30 UTC
From: Gregory Graham
Topic: 34493 Message: 47259

Wes
As we have talked before I thought I would keep you up to date on the Kenwood Replacement Sprocket project. I now have completed a small production run of both large and small sprockets completed. I am very satisfied with the product and will send my first products to Terry for a review. When he gives me a thumbs up I'l share with the others on the Kenwood Net what I have available. I have no intention of running a business this is still a hobby to me. At this time I have only shared with Terry and you my success and progress. At this time I still have one little bug to work our and that is in the first run the center hole is about 0.0005 inch too small. It requires a little too much push to slide on to the original Kenwood shaft to suit me. So I have ordered a reamer a little larger to hopefully solve that problem. That problem hopefully will be solved by the end of the week and the finished parts will be off to Terry for review. The material I used has a Tensile Strength of 5,000 psi. They are tough, you can dance on them if your agile and maybe hang on to a walker. HAHA. So have a look at the WEB site and hold off sharing information for a few weeks until I have everything proven out and reviewed. Only Terry knows about the WEB site. See http://www.nr6c.com/sprocket.htm http://www.nr6c.com/sprocket.htm

I.e. for your information the advances in Rapid Prototyping or 3D printing are huge. They are now printing composite materials as well as metal. Can you imagine a 3D printed metal die? ABS materials can now be selected in all colors in the color pallet and are being used for breast plates, Armor and a wide verity of movie costumes. Amazing the advances. The last Olympic winning Bob Sled was 3D printed. So, your comments about 3-D printing not having lasting power..... Well not as we know it today, the super materials they are printing today are awesome even tho we don't need them for our Kenwoods. HAHA

Gregory

47260. Re: [TS-520_820_530_830] Reply from Int'l Crystal Mfg. in re HET-OSC board 10M replacement crystals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-29 09:46:05 UTC
From: Michael Sylvester
Topic: 47233 Message: 47260

What board are crystals on? I think Charro is parting out a 530 now on eBay. What differences does the SE have from plain 530?

"Soon Rivers Run with Red"
Michael///KD0WSJ

this msg edited as it contained several previously posted msgs- WB7UQU

47261. Re: [TS-520_820_530_830] new member with a small 520 fault

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-29 20:17:17 UTC
From: Ken Winterling
Topic: 47257 Message: 47261

Greg,

The problem is probably caused by resistors R5 and/or R6 (I'm recalling the part IDs from memory so check them on the schematic), both 56K 1/2 watt, on the HV board. These two resistors form a voltage divider network that reduces the final tube screen voltage in TUNE mode. They are not involved when in full power CW mode.

Ken
WA2LBI

On Wed, Jan 29, 2014 at 2:44 PM, Greg Lamey <gnjlamey@...> wrote:

>
>
> Greetings from "bloody hot" South Australia
>
> recently purchased a 520 which I am having a small problem with and need
> to discount "operator error" as the probable cause.
>
> In "tune" mode I can not get any reading at all on the meter to dip the
> plate, however when I switch to full power [CW] I can then dip the plate
> and get rated power out.
>
> I am not familiar with the Kenwoods, so appreciate any tips.
>
> 73s
>
> Greg VK5LG
>
>
>

47262. Re: [TS-520_820_530_830] new member with a small 520 fault

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-29 20:25:29 UTC
From: Joseph Stiles
Topic: 47257 Message: 47262

Greg,

Wish I could send ya a pint...but:

This sound like the problem that plagues many of the Kenwood hybrids.

Check the value of Resistors 5 & 6 (56K each) on the rectifier board (X43-1110-00).

I'm pretty sure that you will find them way out of value...or one open

73 Joe
WB7UQU

On Wednesday, January 29, 2014 12:08 PM, Greg Lamey <gnjlamey@...> wrote:

>Greetings from "bloody hot" South Australia
>
>recently purchased a 520 which I am having a small problem with and need to discount "operator error" as the probable cause.
>
>In "tune" mode I can not get any reading at all on the meter to dip the plate, however when I switch to full power [CW] I can then dip the plate and get rated power out.
>
>I am not familiar with the Kenwoods, so appreciate any tips.
>
>73s
>
>Greg VK5LG
>
>
>

47263. Re: [TS-520_820_530_830] Reply from Int'l Crystal Mfg. in re HET-OSC board 10M replacement crystals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-29 20:47:29 UTC
From: K5MYJ
Topic: 47233 Message: 47263

It's better to just buy the new crystals from ICM. Any crystals from a parted out rig are questionable. They are 50+ years old.

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"
----- Original Message -----
From: Michael Sylvester
To: TS-520_820_530_830@yahoogroups.com
Sent: Wednesday, January 29, 2014 1:46 AM
Subject: Re: [TS-520_820_530_830] Reply from Int'l Crystal Mfg. in re HET-OSC board 10M replacement crystals

What board are crystals on? I think Charro is parting out a 530 now on eBay. What differences does the SE have from plain 530?

"Soon Rivers Run with Red"
Michael///KD0WSJ

this msg edited as it contained several previously posted msgs- WB7UQU

47264. Re: [TS-520_820_530_830] Reply from Int'l Crystal Mfg. in re HET-OSC board 10M replacement crystals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-29 21:19:23 UTC
From: <wagstw46@...>
Topic: 47233 Message: 47264

We are discussing Het Osc crystals. The TS530 is a PLL rig no similarity to TS520, TS520S or TS520SE rigs. The TS530 uses a VCO signal as the LO for the Transmit Mixer.

Terry K9TW

47265. Re: Replacement RL-1 TS530/830 Aux Relay

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-29 21:25:46 UTC
From: Brian Allen
Topic: 47231 Message: 47265

These relays seemed to dry up very quickly about a year ago. Digikey posted on their site a limited number available and they were quickly sold. Online components had about 800 on hand at $7. In about a week the price quickly shot up. I saw these relays on ebay about 2 months ago at around $30. At that time, I told several looking for them and they bought them up. The only thing I can suggest is keep a check with ebay.

Is the 100 ohm resistor mod to the relay a good mod? seems like they are subject to excessive current they are not designed for and failing.

Terry, have you found these relays failing in the rigs you have worked on?

Thanks kb4mng

47266. Re: [TS-520_820_530_830] RE: TS830 No TX, RX down; A common problem?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-29 21:32:06 UTC
From: Jan Servaites
Topic: 47115 Message: 47266

Terry,
This advice from you has worked out great. The 530's Q1 appeared to be working and L41 appeared to be bad (from injecting signal at TP1 & S1-2 solder tab. Now (maybe from static discharge from poking around) Q1 is not working. So, I'm going to remove & troubleshoot L41 (and rewind it if bad) and will want to replace Q1. What are you guys using as a Q1 replacement? An NTE222? I see MCM has them for about $14.
Jan N8CBX
(Thanks again Terry for the advice, its helped me tremendously)

wagstw46@... wrote:

>
>
> Jan
>
> I am not sure what thread you are referring too? Last I knew you were
> working on the AVR board. Are you saying that after cleaning the
> bandswitch contacts you have no RF output on any band and your receive
> sensitivity is down on all bands? Not very practical to clean
> bandswitch contacts in place. Also need to measure the resistance or
> IR mv drop across each contact to see if you did any good. Almost
> never bandswitch problem when all bands are low or missing.
>
> I usually repair the receiver 1st. I assume you have all the required
> low voltage supplies (12 vdc regulated, 9vdc regulated, and RF-1
> 3.6vdc (AGC and ALC bus reference voltage).
>
> I usually start on 14.2mhz (middle of the band range and where KW
> provided the RX and TX level diagram values in the service manual).
> You can do a quick check and use the Marker signal and see what S
> meter readings are on all bands with Drive Control peaked at 1200.
> Should all be very close to or slightly more than S9 on each band. If
> lower than that I would start by doing coil pack alignment. If very
> low or non-existent then may have a failure in the front end. (L41
> and/or Q1)
>
> If all bands are very low or no receive the most common problem is ESD
> (shot of nearby lightning) or accidental transmit RF burning up L41
> ant step up transformer and sometimes Q1 RF amp.
>
> You can inject 8.830mhz RIF at output of RF board TP-2 and if good
> loud tone and S-meter indication you know the IF chain, product
> detector, and audio are all good and problem is on the RF board (or

> interconnecting leads and molex connectors) .
>
> Can just use RF sig gen and work from SO-239 or work back wards. Easy
> to get on the wiper of S1-2 and inject and if good Rx and S-meter you
> know Q1 RF amp is not hurt and problem is likely L41. If inject at
> TP-1 and no RX and inject at S1-2 and have RX almost certainly bad
> L41. On occaision can have bad BCB filter with L1 shorted to ground
> shunting rx signals but not often.
>
> As far as low or no TX RF output on all bands it is not likely bad or
> dirty bandswitch contacts.
>
> I would start by doing Driver stage test to prove have good RF drive
> available (need approx 47 volts at 6146 control grids for full ALC
> indication). Do the Driver stage test with SG switch off. CW mode.
> Drive control at 1200 and CAR level pot at 1200. Meter in ALC. Flip to
> Send and peak Drive control. If meter pegs FSD simply back down the
> CAR level. Repeat on each band with VFO around 200. If no ALC
> indication increase CAR to full clockwise and repeat. If the Driver
> stage is good should be able to get FSD on all bands and it should
> hold there and not drift off with rig keyed. Let Driver tube rest
> between each band as it is running Class A at max plate current so
> will get pretty hot during this test.
>
> If you have no ALC indication on any band with the Driver test then I
> would break out the RF millivolt meter or O-scope and run TX Level
> diagrams starting with the TIF signal. Then move on to the output of
> the TX Mixer at TP-4 and then control grids of the finals. Where
> signal is lost then take DC voltages at the active device and make
> sure you have the necessary LO signals (at TX Mixer need Het and
> approx 1 volt of VCO as the LO).
>
> Troubleshooting no RF output or low RF output is one of easier
> problems to troubleshoot especially if low or missing on all bands.
>
> This is a lot to cover and as I say I almost always get the receiver
> going first and then move on to transmitter.
>
> Terry K9TW
>
>
>

47267. Re: [TS-520_820_530_830] Reply from Int'l Crystal Mfg. in re HET-OSC board 10M replacement crystals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-29 21:31:53 UTC
From: <wagstw46@...>
Topic: 47233 Message: 47267

Bob

If that were true then every TS520 in existence and on the air today would be experiencing problems with Het Osc and Transmit Mixer issues. I am not aware of any Het Osc issues that people are starting to see with their TS520s??

99% of time no problem with using a Het Osc crystal pulled from a TS520 board or buy a board from Bob Mansker and swap the boards. Done all the time.

I have couple of complete sets of hanging boards which have allowed me to keep customer and my own TS520 on the air.

If ICM can no longer provide TS520 het osc crystals then I would not hesitate to pull one from a parts board or swap the board.

Bob Mansker is reducing his overstock of TS520 boards at this time. If Wes plans to keep his TS520 for any amount of time he might want to consider checking with Bob to see if he has a board and what he gets for one. I have had very good success with anything Bob sells.

Terry K9TW

47268. Re: Replacement RL-1 TS530/830 Aux Relay

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-29 22:10:59 UTC
From: <wagstw46@...>
Topic: 47231 Message: 47268

Brian:

These relays control functions like Rx and Tx bias and S-meter and ALC metering. I am not convinced that switching a capacitive load is the issue especially since not all 4 contacts see reactive load or inrush current or arc discharge. In fact some arc discharge is good as it breaks film build up. Just dont want high inrush current to weld the contacts and dont want projections to build up to bridge the contact gap. These relays see a lot of operations and contacts are very small. Lets just say adding RC arc snubber cant hurt.

People have been doing the relay "TAP" test for some years now to diagnose cause of intermittent functions and some remove the plastic cover and attempt to clean the contacts. This is difficult in place and the contact leafs are very delicate. I have never found this to be a long lived fix. I have attempted to burnish contacts with diamond burnishing tool without much life extension.

I was recommending that customers replace the relay as a matter of routine when the relays subs were readily available and could be had for $10 to $15 from Mouser and Newark and Allied. Now I only replace one when troubleshooting indicates the relay is the source of the operational issue. I have replaced the relay in both of my TS830s about 3 years ago now with the Panasonic/Aromat units.

That is where I am at today with a customers TS530 rig. It has two sets of contacts that measure close to 1 ohm resistance and should be closer to 50 to 100 milli-ohms. I have recommended replacement to the customer while I have rig here for repair and alignment and thanks to the generosity of our fearless leader Joe I was able to install one of my personal spares and Joe is selling me a NOS relay to replace my stock.

I would not lay awake at night worrying about it. It may be as I think Mike stated the case that we will soon be faced with paying $50 for replacement as only option to keep the rigs on the air. Lots of rigs and test gear out there with unobtainium parts. We sometimes forget that the KW Hybrid is well past its design and economic design life.

If you plan on keeping a TS530 or TS830 for any extended period of time might not be a bad idea to get hands on one or two of the NOS subs and put them back for future need.

Terry K9TW

---In TS-520_820_530_830@yahoogroups.com, <bsa0791@...> wrote:

These relays seemed to dry up very quickly about a year ago. Digikey posted on their site a limited number available and they were quickly sold. Online components had about 800 on hand at $7. In about a week the price quickly shot up. I saw these relays on ebay about 2 months ago at around $30. At that time, I told several looking for them and they bought them up. The only thing I can suggest is keep a check with ebay.

Is the 100 ohm resistor mod to the relay a good mod? seems like they are subject to excessive current they are not designed for and failing.

Terry, have you found these relays failing in the rigs you have worked on?

Thanks kb4mng

47269. Re: [TS-520_820_530_830] RE: TS830 No TX, RX down; A common problem?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-29 22:20:55 UTC
From: <wagstw46@...>
Topic: 47115 Message: 47269

Jan:

I doubt you hurt the Q1 RF Amp. It may well be bad but probably occurred at same time L41 was damaged.

I would check with Scotts Electronic Parts. He sells parts for crystal radios and was selling original 3N211 and 40673 mosfets. Both work just fine and run around $6 to $9 dollars. Yes a NTE222 or NTE 454 will also work.

When you get L41 rewound I can give you my bench test procedure to check it before you put it back in the rig if you are interested. Just need good RF sig gen and RF millivolt meter or O-scope to drive it with. It test above 1.8mhz out of circuit. With it removed also good time to drive the BCB high pass filter and make sure it isnt hurt. I can give you simple procedure to look at its cutoff frequency.

You should also check protection diode D2 while you are at it. It is there to protect the Q1 RF amp from the rigs own internal transmit RF. It does that by being biased on when you have Driver tube current and shunting any RF that appears at Q1 Gate 1 to ground thru C44 and the diode. Some folks think it is for ESD protection and it is not. Only time it is forward biased is when you have IR drop across cathode resistor R35. A good way to test is to apply bench supply or battery across R35 and see if D2 pulls RX signal down. If you have board out to replace L41 can just lift one end of D2 and test it.

Terry K9TW

47270. Re: [TS-520_820_530_830] BAsic Radio Course

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-29 22:39:10 UTC
From: Thomas Bewick
Topic: 47238 Message: 47270

Oh yea, I see now it was you, Kevin, that first mentioned the book and Mike posted the info on the CD.
I know what you mean about the basics, I would not get all the math either and have tried to read more then one radio book where most of it goes over my head and I don't really learn anything of practical value. I also just ordered "Principles of radio" that Terry, recommended to me too. Glad to have experienced elmers point me in the right direction.
73,
Tom K2BEW

This msg edited to conserve space, as it contained msg's already posted - WB7UQU

http://www.avast.com/

This email is free from viruses and malware because avast! Antivirus http://www.avast.com/ protection is active.

47271. Re: [TS-520_820_530_830] RE: TS830 No TX, RX down; A common problem?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-29 22:52:03 UTC
From: Jan Servaites
Topic: 47115 Message: 47271

Terry,
Awesome, thanks.
I have L41 removed and the winding resistance (easily done) is
0.965/0.245 ohms, no shorts. I have both & good RF sig gen & O-scope and
I can bench test L41 with your proceedure, thanks.
I'll check the other components tonight after dinner.
Jan N8CBX

wagstw46@... wrote:

>
>
> Jan:
>
>
> I doubt you hurt the Q1 RF Amp. It may well be bad but probably
> occurred at same time L41 was damaged.
>
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> time to drive the BCB high pass filter and make sure it isnt hurt. I
> can give you simple procedure to look at its cutoff frequency.
>
> You should also check protection diode D2 while you are at it. It is
> there to protect the Q1 RF amp from the rigs own internal transmit RF.
> It does that by being biased on when you have Driver tube current and
> shunting any RF that appears at Q1 Gate 1 to ground thru C44 and the
> diode. Some folks think it is for ESD protection and it is not. Only
> time it is forward biased is when you have IR drop across cathode
> resistor R35. A good way to test is to apply bench supply or battery
> across R35 and see if D2 pulls RX signal down. If you have board out
> to replace L41 can just lift one end of D2 and test it.
>
> Terry K9TW
>
>

47272. Re: [TS-520_820_530_830] RE: TS830 No TX, RX down; A common problem?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-29 23:14:13 UTC
From: clifford wright
Topic: 47115 Message: 47272

Looks like you are getting on well there. $14 US for an NTE222 seems
pretty expensive.
I got some equivalents from our local Auckland VHF group trading table
for the equivalent of $0.80 each recently.
ZL1BDA

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

47273. Re: Replacement RL-1 TS530/830 Aux Relay

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-29 23:17:09 UTC
From: clifford wright
Topic: 47231 Message: 47273

From memory my TS 820s relay also failed. When I came to fix it I seem to remember that the pin outs on the Kenwood relay are not standard. It meant quite a bit of careful rewiring, but worked fine afterwards. Can you get the (apparently) special relays in the US?
ZL1BDA

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

47274. Re: Replacement RL-1 TS530/830 Aux Relay

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-30 00:43:45 UTC
From: <wagstw46@...>
Topic: 47231 Message: 47274

Yes the TS520 and TS820 use the same relay and several sources for this relay including Kens Electronics in Kalamazoo Michigan. See his website.

Terry K9TW

47275. Re: [TS-520_820_530_830] RE: TS830 No TX, RX down; A common problem?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-30 01:06:41 UTC
From: <wagstw46@...>
Topic: 47115 Message: 47275

Jan:

Dc resistance isnt a very good check. One shorted turn and it is no good. OK to start there. Here are specs:

1. Pri 6 turns #42
2. Sec 26 turns # 42
3. Pri ohms = 0.25 ohms
4. Sec ohms = 1.00 ohms
5. Pri inductance = 0.85 uhy
6. Sec inductance = 15.5 uhy

Note: Inductance read with digital LCR bridge with iron core flush with top of shield can

To test on bench excite the primary with 10mhz to 12mhz RF signal. Use as low a level as possible to avoid saturation. Measure rf voltage across secondary with RF millivolt meter or O-scope.

With 5mv @10 mhz injected into primary should see approx 40 mv output across secondary

With 50 mv @10 mhz injected into primary should see approx 450 to 500 mv output across secondary.

This is with the output voltage peaked with core approx 1 turn outside top of shield can.

Turns ratio = 26/6 = 4.33 to 1
Ohms ratio = 1.0/0.25 = 4.0 to 1
Uhy ratio = 15.5/.85 = 18.24/1 square root = 4.27 to 1

It is a nominal 4:1 step-up transformer, but wont see that in circuit once secondary is terminated.

If you look at the RX Level Diagram in service manual you will see 0dB (-113dBm) at primary and 10dB (-103dBm) at secondary.This is 0.50uv at primary and 1.58uv at secondary. 1.58/0.50 = 3.16/1 voltage step-up in circuit. 10 dB gain across L41 = 3.16 to 1 voltage gain in circuit.

Make sure you wind both the primary and secondary counter clockwise viewed from the top of the spindle.

Terry K9TW

47276. Re: [TS-520_820_530_830] RE: INRAD filter substitution

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-30 01:26:33 UTC
From: <wagstw46@...>
Topic: 47238 Message: 47276

Mark:

I dont know what kind of AF gen you have but point I am trying to make is that if it is typical of most of the old Heath style generators then wont have a calibrated output level and no ALC circuit and if you have no way to accurately measure AF voltages at millivolt level you can be kidding yourself. Easy enough to use Freq counter to see what actual output frequency is as most hams have a counter.

Easy enough with one of these old AF generators to set your mic gain to say 1200 then set sig gen for 1200 hz and key the rig and adjust sig gen output level for 50 watts on the external wattmeter. So far so good. You have no idea if you are injecting 5mv or 7mv or 10 mv, but at this point you dont really need to know. However you do need to know that it does not change for next steps. If you dont know what it is pretty hard to tell if it has changed.

Now you swing the AF sig gen down to 300 hz and see 25 watts or you swing it up to 2700 hz and see 25 watts and you say man everything is cool. It could be and then it could not be. You dont really know as you dont know if the 25 watts is due to the fact that you are seeing the 3dB roll off point of the filter response curve or the millivolt output level of the AF sig gen has fallen off from where it was at 1200 hz (not an uncommon problem).

So using Spectro-gram or similar software is far superior to using a low budget AF sig gen. Ideally need a noise bridge with it, but can be done without one by just using receiver back ground noise.

Look at the sample response curve I placed in Files under Repair folder. It is fun and simple and accurate way to set Carrier point. You can find several articles on web on how to use Spectro-gram to adjust Elecraft carrier oscillators.

I provide each customer with hard copy of as left LSB and USB curves.

Terry K9TW

47277. Re: [TS-520_820_530_830] RE: TS830S Unstable on 10M - no output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-30 01:55:30 UTC
From: Dave LaCroix
Topic: 46900 Message: 47277

Where is this rivet located? I looked at the board and at the manuals but don't see it.

Dave WB0SD

On Wednesday, January 29, 2014 5:53 AM, "wagstw46@..." <wagstw46@...> wrote:

Did you try to measure contact string resistance and watch it as you rocked the band switch to make sure you were on the 10 meter mixer tuned circuits? If contact is bad which is the more common problem then touching up the solder at board pins wont help.

Actually the contacts themselves are seldom the problem accept for those that have been damaged by people using right angle cleaning tools that bend or spread them. fortunately hard for them to get to the back side of the contact. The most common source of the high resistance and intermittent rf drive problems is the rivet to pc trace contact area. It has lost its pressure and has oxidized.

Only way to fix this is to remove board and clean the oxide off with caustic cleaner, dremel tool, X-acto knife etc and then to solder the rivet to the trace or use the silver pen method. I prefer to solder but not go crazy.

In this path you have essentially 4 places for IR drop. At the wiper contact, at the tank circuit contact, at the rivet to pc trace interface, and at the board pin solder. All four in series and in my experience the problem child is the rivet to pc trace.

When you get done with repair need to measure the resistance of that series string to make sure you have really affected a repair. You cannot press on the contacts to restore low resistance. You might be able to give a very slight twist, but I would not mess with either contact until I fixed the rivet to trace interface and then measure the resistance. You can do that with DMM or ESR bridge or dc bench supply and apply 6vdc @ 1 amp and read millivolt drop across the string.

Terry K9TW

---In TS-520_820_530_830@yahoogroups.com, <dlacroix@...> wrote:

Ok, I got a wild hair and folded over the AF board and touched up all the bandswitch contact solder joints. Put it all back together and was hoping for success but no improvement.

47278. Re: [TS-520_820_530_830] RE: TS830S Unstable on 10M - no output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-30 04:16:48 UTC
From: <wagstw46@...>
Topic: 46900 Message: 47278

Go to Ron WB4HFN website and look under the Kenwood Net Home Page and look under Articles and you will see Dick Housdens excellent procedure and close up pictures of the vertical band switch boards.

You can also go to Ken K4EAA site and see his pictures. Ken uses the silver pen method and Dick uses the solder method. I have done both and only do solder now.

Some folks apply the solder and a small jumper wire back at the contact hair pin turn window to keep the heat away from the contact for fear of losing spring temper. I have done it both ways and if you have very good clean bright metal at the rivet (I also apply a drop of liquid rosin flux) you can get in and out pretty quickly. It doesnt take very much solder to bond the rivet, contact material, and pc trace together electrically.

Terry K9TW

47279. Re: [TS-520_820_530_830] RE: INRAD filter substitution

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-30 04:24:05 UTC
From: Mark Gilger
Topic: 47238 Message: 47279

I agree about using the AF generator. I use a
scope to measure and luckily in that range my
generator seems to be pretty good.

Mark

At 08:26 PM 1/29/2014, you wrote:
>
>
>Mark:
>
>
>I dont know what kind of AF gen you have but
>point I am trying to make is that if it is
>typical of most of the old Heath style
>generators then wont have a calibrated output
>level and no ALC circuit and if you have no way
>to accurately measure AF voltages at millivolt
>level you can be kidding yourself. Easy enough
>to use Freq counter to see what actual output
>frequency is as most hams have a counter.
>
>
>Easy enough with one of these old AF generators
>to set your mic gain to say 1200 then set sig
>gen for 1200 hz and key the rig and adjust sig
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>wattmeter. So far so good. You have no idea if
>you are injecting 5mv or 7mv or 10 mv, but at
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>Look at the sample response curve I placed in
>Files under Repair folder. It is fun and simple
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47280. Re: [TS-520_820_530_830] RE: TS830S Unstable on 10M - no output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-30 05:12:22 UTC
From: Joseph Stiles
Topic: 46900 Message: 47280

Dave,

The rivet(s) in question are on all the band switch wafer boards. They are small. They hold the
springy fingers to the phenolic band switch circuit board. Some boards may have up to 12 ..some maybe only 4...it depends on the wafers position and function. Sometimes there may be some corrosion..lack of tightness...etc that causes poor/no contact for a particular finger or fingers.

73 Joe
WB7UQU

On Wednesday, January 29, 2014 8:17 PM, "wagstw46@..." <wagstw46@...> wrote:

>Go to Ron WB4HFN website and look under the Kenwood Net Home Page and look under Articles and you will see Dick Housdens excellent procedure and close up pictures of the vertical band switch boards.
>
>
>You can also go to Ken K4EAA site and see his pictures. Ken uses the silver pen method and Dick uses the solder method. I have done both and only do solder now.
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>
>
>
>
>Terry K9TW
>
>
>

47281. Re: [TS-520_820_530_830] RE: INRAD filter substitution

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-30 05:21:11 UTC
From: K5MYJ
Topic: 47238 Message: 47281

The Heathkit AG-9, IG-72, IG-1, and IG-18 all have calibrated outputs.

And the Heathkit AV-3, IM-21, IM-38 , IM-5238 AC VTVMs can be used with other signal generators that do not have calibrated outputs.

http://www.nostalgickitscentral.com/heath/products/heathkit_test.html

The Heathkit AC VTVMs are a low cost alternate to the HP 400 series AC VTVMs.

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"
----- Original Message -----
From: Mark Gilger
To: TS-520_820_530_830@yahoogroups.com
Sent: Wednesday, January 29, 2014 8:24 PM
Subject: Re: [TS-520_820_530_830] RE: INRAD filter substitution

I agree about using the AF generator. I use a scope to measure and luckily in that range my generator seems to be pretty good.

Mark

At 08:26 PM 1/29/2014, you wrote:

Mark:

I dont know what kind of AF gen you have but point I am trying to make is that if it is typical of most of the old Heath style generators then wont have a calibrated output level and no ALC circuit and if you have no way to accurately measure AF voltages at millivolt level you can be kidding yourself. Easy enough to use Freq counter to see what actual output frequency is as most hams have a counter.

Easy enough with one of these old AF generators to set your mic gain to say 1200 then set sig gen for 1200 hz and key the rig and adjust sig gen output level for 50 watts on the external wattmeter. So far so good. You have no idea if you are injecting 5mv or 7mv or 10 mv, but at this point you dont really need to know. However you do need to know that it does not change for next steps. If you dont know what it is pretty hard to tell if it has changed.

Now you swing the AF sig gen down to 300 hz and see 25 watts or you swing it up to 2700 hz and see 25 watts and you say man everything is cool. It could be and then it could not be. You dont really know as you dont know if the 25 watts is due to the fact that you are seeing the 3dB roll off point of the filter response curve or the millivolt output level of the AF sig gen has fallen off from where it was at 1200 hz (not an uncommon problem).

So using Spectro-gram or similar software is far superior to using a low budget AF sig gen. Ideally need a noise bridge with it, but can be done without one by just using receiver back ground noise.

Look at the sample response curve I placed in Files under Repair folder. It is fun and simple and accurate way to set Carrier point. You can find several articles on web on how to use Spectro-gram to adjust Ele

47282. Re: [TS-520_820_530_830] RE: TS830S Unstable on 10M - no output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-30 05:53:58 UTC
From: Wes Will
Topic: 46900 Message: 47282

On 01/29/2014 10:16 PM, wagstw46@... wrote:

> losing spring temper. I have done it both ways and if you have very good
> clean bright metal at the rivet (I also apply a drop of liquid rosin

Has anyone tried using the solder paste that is made for surface-mount devices, and the liquid flux pens for the de-oxidation?

(That is what flux is mostly for, keeping out oxygen and removing oxide compounds before the soldering temperature is reached, so that the parts to be bonded will be at their cleanest and least-oxidized when the solder flows.)

I should thing that a pin-point heat gun nozzle, such as comes with a Weller PyroPen butane soldering torch, and the paste solder with the non-rosin liquid flux might make this a much easier job with a better chance of a good bond.

I do not think my band switch is in need of this treatment at the moment, not yet at any rate. But unless someone has tried it and knows there is no good to come of that sort of soldering technique, that would be the first thing I would try. I think I would also use the wire from rivet to pad addition as well, seeing as that makes it certain to be a good contact all the way to the edge of the wafer.

Do you all ever use solder-wick de-soldering aid as a source for wire to repair traces? A military soldering school instructor, friend of mine down at Goodfellow Air Force Patch in S'nAngelo, TX taught me that back in 1983 or 1984. I sat through his soldering repair class, the school ran 24 hours a day and nobody cared if I came in and sat through the classes in my off time, between rousting students back and forth to their classes. (I was temporarily assigned duty as a military training instructor; dress-right, dress, forward, march, aiguillette on my epaulets and funny hat and all.

I even took the final exam in soldering, passed it, too, The test consisted of repairing a computer peripheral card, and in '83, a parallel printer card was about 14 inches long and had hundreds of components, on both sides.

The printer card was used to print a page, the computer was turned off and the card removed, and then the instructor (my buddy from an earlier deployment, we were both in West Berlin) snapped it in half across the edge of a bench. IC chip shrapnel every-which-way, and I had two hours to print a page using it, timer starts NOW.

I made it, with a few minutes to spare. Wish I could do that well now, with these mangled-up mitts, but then it was rather a lot of fun, mostly.

Anyway, rag-chew over, to repair the traces on the board once the epoxy had physically stuck the two halves back together, we used either 28-ga. or finer wire, of for the larger width pads and runs, sections of solder-wick pulled tight and flattened into a narrow ribbon. They took solder instantly, were as conductive as all get-out of course, and mechanically easier to epoxy down on the board, being flat to begin with.

So solder-wick, paste SMD solder, and non-rosin pen flux. Comments, any who have knowledge of whether this will work on rivet repairs?? Sounds good in theory but a lot of things that sound good on paper stink in practice.

If you know otherwise please save me from the folly of trying it, thanks.

A quick aside, the ICM price for HET-OSC crystals for a 520 series (mine is an SE) is $23,25 with a three-week turn-around time from ordering, and that doesn't include postage to get them here. I am calling them tomorrow to seal the deal and get them started lapping my two rocks. Since they're so small, an envelope and US Postal Service should be just fine for the shipping, probably $2 or $3 dollars, shouldn't be more for a small padded envelope from Oklahoma to Illinois.

--
Wes Will
N9KDY

47283. Re: [TS-520_820_530_830] RE: INRAD filter substitution

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-30 11:59:43 UTC
From: <wagstw46@...>
Topic: 47238 Message: 47283

Bob:

I did not say it could not be done with a Heath AF gen or similar quality unit. I simply said you have to be able to measure 5 mv to 10 mv accurately off the panel meter at 1200 to 1500 hz and make sure it stays at at that level at 300 hz and 2700hz. If you and Mark can do that with your Heath gear then great. You have what you need to perform the Service manual method to bring the carrier oscillators to the IF xtal filters. .

I still have a Heath IM-18 on my bench and use it from time to time. Nothing wrong with modest test gear. Heath made it possible for me and countless others to be able to experiment and work on our radios.

As with all test equipment you have to be aware of its limitations and how to work around that. Doesnt take you long to understand what those limitations are and having accurate step attenuators has always been weak link with all the low end signal generators.

I remember first time I was aligning boatanchor receiver with my IG-102 and got done and was pretty happy with myself. Man this baby has pretty good sensitivity. Then I removed the test lead off the SO-239 and realized I could still hear the signal in the rigs speaker just about as loud as I did with it connected. I had just kidded myself. I had no idea where the MDS was at and frankly back then had no clue what a uv or dBm was. Still had loads of fun.

So I still contend it is so much easier to use a lap top and Spectrogram or one of the many audio spectrum analyzer softwares. I am not a computer guy and if I can do it anyone can. Most new KW hybrid owners are far more likely to have a computer and can down load free versions of the software. Easier and faster and cheaper to do than for them to buy Heath AF gen and Heath AC VTVM and refurb them especially where 5mv to 10mv is at on one of these units.

I am simply making people aware of the options available to them to adjust the Carrier Oscillators in their KW Hybrids. I have on numerous times listed about 5 ways to do this. I told Craig if he is happy with the off air Tx reports and how the Rx sounds he could do nothing. Some people set them with a freq counter to the frequency listed in the service manual and call it done. Others use the Marker/S-meter zerobeat method.

Much of what I say on here is not for experienced people like you and Mark. I am focusing on the new folks and new KW hybrid owners. I try to give options that I know will work. I seldom say there is only one way to do anything. Of course some methods are better than others.

Terry K9TW

47284. RE: [TS-520_820_530_830] The heroic folks at Kenwood - a tribute!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-30 14:51:00 UTC
From: Brad Allen
Topic: 47087 Message: 47284

I noticed a couple things. This reminds me of my time at Harris RF, the company that builds Military radios. I also noticed mostly women building the radios and the only one wearing safety glasses was the person soldering manually but they had no side shields, both of these required on any manufacturing floor in the US. You are right though, works for me too, I have yet to see a price. By the way, the link works just fine. Brad KB2CHY

From: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com] On Behalf Of Joe - W7RKN
Sent: Monday, January 27, 2014 8:41 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830] The heroic folks at Kenwood - a tribute!

□

Works fine for me!

Try it again!

https://www.youtube.com/watch?v=G6B-cC0AYxY

----- Original Message -----

From: W LEWIS <mailto:nscb56a@...>

Subject: Re: [TS-520_820_530_830] The heroic folks at Kenwood - a tribute!

What's the name of the video? The link is not working.
Butch
KØPSA

From: Mark Gilger <mgilger@...>
To: TS-520_820_530_830@yahoogroups.com
Sent: Monday, January 27, 2014 3:49 PM
Subject: Re: [TS-520_820_530_830] The heroic folks at Kenwood - a tribute!

Sure could purchase a lot of TS-520's for price of one of these.
Mark, WB0IQK

At 04:37 PM 1/27/2014, you wrote:
>I will reserve comment on this unwittingly humorous video other than to
>say that I suspect that Kenwood's radio assembly methods have evolved a
>bit since the days of our lovely old -- and occasionally temperamental
>-- hybrids.
>

>It's the music soundtrack that makes this presentation what it is. Enjoy!
>
>https://www.youtube.com/watch?v=G6B-cC0AYxY
>
>73,
>
>Craig
>W3CRR
>
>
>
>-----
>
>Yahoo Groups Links
>
>
>

47285. Thank You

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-30 16:11:47 UTC
From: <wagstw46@...>
Topic: 3139 Message: 47285

Want to publicly thank our owner Joe who has sold me a NOS RL-1 aux relay from his personal stock. I can now install this in customers rig and not have to resort to installing a "good" Omron LZN4 pull.

Thanks to those who also wrote off the reflector and sent me numerous links that they found.

I probably phrased my question wrong. I had done similar Google searches and was aware of most of these sites. What I really wanted was two things. 1. Anyone have a spare that they were willing to sell and 2., Do you have a supplier other than Ken or Jim where you routinely buy these relays at or near $25 price or better in single lot quantity. .

I have talked to several others who regularly work on KW hybrids and none have a source other than Ken K4EAA. .

Dick W0NTA and Dave VK5PDL are presently both looking. Both routinely work on TS530s and TS830s. Of course we can be sure that Ken K4EAA continues to search as well. Hopefully someone will come up with a reliable source around $25.00.

So thanks to all and especially to Joe who helped me out with my current commitment to a customer.

73s Terry K9TW

47286. Bad electro. Caps?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-30 17:10:03 UTC
From: <bsa0791@...>
Topic: 47286 Message: 47286

If the caps are going bad in the TS 530 what indication will you have on receive. I have a predominate hiss in the rx audio. No matter what you do, change bands, modes, antenna unplugged, its there. The rx and s meter are fine, just the hiss. The his is controlled by the volume.

Brian kb4mng

47287. Re: [TS-520_820_530_830] Bad electro. Caps?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-30 17:23:48 UTC
From: Gordon JC Pearce
Topic: 47286 Message: 47287

On Thu, Jan 30, 2014 at 09:10:03AM -0800, bsa0791@... wrote:
> If the caps are going bad in the TS 530 what indication will you have on receive. I have a predominate hiss in the rx audio. No matter what you do, change bands, modes, antenna unplugged, its there. The rx and s meter are fine, just the hiss. The his is controlled by the volume.
>
> Brian kb4mng

It's going to hiss at least a bit. Is this distinct from the "RF noise" hiss?

I have hardly ever (maybe half a dozen in 25 years or so) seen an electrolytic capacitor fail, that wasn't in a cheap shitty switched-mode power supply. If any electrolytic is going to fail in one of the Trio hybrids, it will be a PSU capacitor and you'll know it's happened ;-)

--
Gordonjcp MM0YEQ

47288. Re: [TS-520_820_530_830] new member with a small 520 fault

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-30 07:16:33 UTC
From: <gnjlamey@...>
Topic: 47257 Message: 47288

thanks guys, 100% correct O/C resistor in screen divider as suggested. Much appreciated for the tip.

47289. Re: [TS-520_820_530_830] Bad electro. Caps?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-30 18:24:56 UTC
From: Joseph Stiles
Topic: 47286 Message: 47289

Brian,

You will ALWAYS have some "hiss," when the volume is turned even slightly up. This is the inherent "noise" of the receiver ." Even replacing the "old" stuff with "new" stuff will not eliminate
the "hiss." Now if you have a "hum," that's a bit different..and indicates a possible 60Hz signal making it through.

73 Joe
WB7UQU

On Thursday, January 30, 2014 9:23 AM, Gordon JC Pearce <gordon@...> wrote:

>On Thu, Jan 30, 2014 at 09:10:03AM -0800, bsa0791@... wrote:
>> If the caps are going bad in the TS 530 what indication will you have on receive. I have a predominate hiss in the rx audio. No matter what you do, change bands, modes, antenna unplugged, its there. The rx and s meter are fine, just the hiss. The his is controlled by the volume.
>>
>> Brian kb4mng
>
>It's going to hiss at least a bit. Is this distinct from the "RF noise" hiss?
>
>I have hardly ever (maybe half a dozen in 25 years or so) seen an electrolytic capacitor fail, that wasn't in a cheap shitty switched-mode power supply. If any electrolytic is going to fail in one of the Trio hybrids, it will be a PSU capacitor and you'll know it's happened ;-)
>
>--
>Gordonjcp MM0YEQ
>
>
>
>
>

47290. Replacement Mic Clip for a MC60A

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-30 19:16:49 UTC
From: Neil McGrath
Topic: 47290 Message: 47290

I have manage to break the mic clip on my Kenwood MC60A. Can anyone suggest a source for a replacement or a general purpose clip that will fit onto the base? I would prefer a UK supplier if possible.

Neil
G7AQK

47291. RE: Bad electro. Caps?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-30 21:01:39 UTC
From: <wagstw46@...>
Topic: 47286 Message: 47291

Is this something new?

Normally when you disconnect your antenna or switch to dummy load you should hear a nice even constant hiss with the RF gain set to max and AF gain at comfortable listening level. Should be no S-meter indication. This is the internal noise produced by the receiver most of which is mixer noise.

Then when you connect your antenna should hear a significant increase in this noise and see S meter indication.

Is this what you are seeing?

Do you have a VTVM with a dB scale on it? If so you can measure your receiver noise gain. Very easy test as follows:

1. Tune receiver on 20 meters to a clear frequency.
2. Switch to dummy load or remove the antenna from the rig
3. Connect your VTVM set to AC mode across the speaker (can do this on external speaker jack). Some folks connect a 8 ohm dummy load resistor across the external speaker and connect VTVM across it so they dont rattle the speaker too much.
4. Set RF gain full CW and increase AF gain for -10dB reading on the VTVM. It may move around a little so just average the swings if it does.
5. Switch back to the antenna and read the dB level. Should read approx +3 to +4 dB.
6. If you have a beam rotate it to see biggest effect as direction will make a difference.

You have just measured the Noise Floor or MDS of your receiver. If you get close to these results nothing wrong with your receiver.

Terry K9TW

47292. RE: Bad electro. Caps?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-30 21:06:42 UTC
From: <wagstw46@...>
Topic: 47286 Message: 47292

I forgot to mention and it may be obvious but do not move the AF gain control after you set it to -10dB at speaker with no antenna. If you are doing this measurement across the speaker instead of a dummy load resistor the volume might startle you when you flip back to the antenna to record the change in dB indication. Must leave AF gain pot at same place for accurate results.

Terry K9TW

47293. Re: [TS-520_820_530_830] Replacement Mic Clip for a MC60A

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-30 21:40:39 UTC
From: Joseph Stiles
Topic: 47290 Message: 47293

Neil,

I know of no supplier that would just sell you the clip, except someone in this group that may have something for you. I have also had a broken mic clip...on a spare MC-50. I washed it in detergent and water...let dry...used some isopropyl alcohol to again clean the surfaces, and used a QUALITY "super glue" to "fix" it. It is still serving today.
I do not know what you have available on the other side of the pond...but "Gorilla Glue" is what I used. It is available at many "home improvement stores" here in the colonies...hihi

Cheers,

73 Joe
WB7UQU

On Thursday, January 30, 2014 11:17 AM, Neil McGrath <g7aqk@...> wrote:

>I have manage to break the mic clip on my Kenwood MC60A. Can anyone suggest a source for a replacement or a general purpose clip that will fit onto the base? I would prefer a UK supplier if possible.
>
>Neil
>G7AQK
>
>
>
>
>

47294. Re: [TS-520_820_530_830] RE: TS830 No TX, RX down; A common problem?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-30 21:45:30 UTC
From: Jan Servaites
Topic: 47115 Message: 47294

Terry & group,
Thank you for the insight in testing L41, I did a bench test today and the secondary voltage looks low. I captured a screen image from my scope and posted it here for everyone to see.
http://janswerks.com/n8cbx/kenwood/L41_signals.jpg
(I did peak up the output w/slug, and injected 10mhz at 20mv, to see the primary sig. clearly on the scope. I didn't see any saturation)
I ordered a spool of #42 ga magnet wire today, so early next week I'll be re-winding L41. I forgot to mention that D2 measured OK, and I bench tested the 8.830 wave trap and did a slight adjustment but that whole input circuit (up to L41) looks good.
Question - If I bench test the RF board, would I need to apply just 12VDC to the board?
Jan N8CBX

wagstw46@... wrote:

>
> <>Jan:
> Dc resistance isnt a very good check. One shorted turn and it is no
> good. OK to start there. Here are specs:
>
> 1. Pri 6 turns #42
>
> 2. Sec 26 turns # 42
>
> 3. Pri ohms = 0.25 ohms
>
> 4. Sec ohms = 1.00 ohms
>
> 5. Pri inductance = 0.85 uhy
>
> 6. Sec inductance = 15.5 uhy
>
> Note: Inductance read with digital LCR bridge with iron core flush
> with top of shield can
>
> To test on bench excite the primary with 10mhz to 12mhz RF signal. Use
> as low a level as possible to avoid saturation. Measure rf voltage
> across secondary with RF millivolt meter or O-scope.
>
> With 5mv @10 mhz injected into primary should see approx 40 mv output
> across secondary
>

> With 50 mv @10 mhz injected into primary should see approx 450 to 500
> mv output across secondary.
>
> This is with the output voltage peaked with core approx 1 turn outside
> top of shield can.
>
> Turns ratio = 26/6 = 4.33 to 1
>
> Ohms ratio = 1.0/0.25 = 4.0 to 1
>
> Uhy ratio = 15.5/.85 = 18.24/1 square root = 4.27 to 1
>
> It is a nominal 4:1 step-up transformer, but wont see that in circuit
> once secondary is terminated.
>
> If you look at the RX Level Diagram in service manual you will see 0dB
> (-113dBm) at primary and 10dB (-103dBm) at secondary.This is 0.50uv at
> primary and 1.58uv at secondary. 1.58/0.50 = 3.16/1 voltage step-up in
> circuit. 10 dB gain across L41 = 3.16 to 1 voltage gain in circuit.
>
> Make sure you wind both the primary and secondary counter clockwise
> viewed from the top of the spindle.
>
> Terry K9TW
>
>

47295. Re: [TS-520_820_530_830] new member with a small 520 fault

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-30 21:43:13 UTC
From: Joseph Stiles
Topic: 47257 Message: 47295

Glad we could help you. Also, please remember to properly "sign" your posts...regardless of the length.....cheers

73 Joe
WB7UQU
TS-520_820_530_830 yahoo group Co-owner

On Wednesday, January 29, 2014 11:16 PM, "gnjlamey@..." <gnjlamey@...> wrote:

>thanks guys, 100% correct O/C resistor in screen divider as suggested. Much appreciated for the tip.
>
>
>

47296. Re: [TS-520_820_530_830] Thank You

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-30 22:07:35 UTC
From: Joseph Stiles
Topic: 3139 Message: 47296

Terry & group,

Terry, tnx fer ur nice comments. I was told early on...that this is what "hams" do. I try and carry it forward. You have also given lots of your time and experience at NO CHARGE to this group. Between you, Mike-w5rkl, and of course Gordon-n6wk(sk) and, others, I have learned more about diagnostics and electronics in general, Kenwood hybrids specifically, in the few years I have been a group member and, now Co-owner, than in my previous 30+ or so years..of just being an "operator."

So, that being said, let's continue to help each other...with our knowledge and expertise as
it's not going to get any better, or easier, trying to find/obtain parts...as long as Bob-ke5ftf is around we're doing good! We've got some great pieces of radio equipment here!

73 Joe
WB7UQU

On Thursday, January 30, 2014 8:11 AM, "wagstw46@..." <wagstw46@...> wrote:

>Want to publicly thank our owner Joe who has sold me a NOS RL-1 aux relay from his personal stock. I can now install this in customers rig and not have to resort to installing a "good" Omron LZN4 pull.
>
>
>Thanks to those who also wrote off the reflector and sent me numerous links that they found.
>
>
>I probably phrased my question wrong. I had done similar Google searches and was aware of most of these sites. What I really wanted was two things. 1. Anyone have a spare that they were willing to sell and 2., Do you have a supplier other than Ken or Jim where you routinely buy these relays at or near $25 price or better in single lot quantity. .
>
>
>I have talked to several others who regularly work on KW hybrids and none have a source other than Ken K4EAA. .
>
>
>Dick W0NTA and Dave VK5PDL are presently both looking. Both routinely work on TS530s and TS830s. Of course we can be sure that Ken K4EAA continues to search as well. Hopefully someone will come up with a reliable source around $25.00.
>
>
>So thanks to all and especially to Joe who helped me out with my current commitment to a customer.
>

>
>73s Terry K9TW
>
>
>

47297. Re: [TS-520_820_530_830] RE: TS830 No TX, RX down; A common problem?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-30 22:34:43 UTC
From: <wagstw46@...>
Topic: 47115 Message: 47297

Jan:

Well this is lower than the 8 to 10 x voltage gain should see at 10 mhz. Did you try it at 1.9mhz as well? 3.16 x voltage gain is in circuit.

I have never seen a bad L3 or L4 wave trap as result of ESD or accidental transmit. More common is bad BCB high pass filter. L1 choke can short and input signal at Ant will be shunted from C1 thru L1 to ground. Need to sweep BCB with RF sig gen. Can connect sig gen at Ant and connect RF millivolt meter or O-scope at the solder pad where you removed L41 primary hot end of winding and inject starting with 2 mhz and sweep down in frequency and watch output voltage as you go down in freq. Will see a voltage peak at around 1.6mhz at knee of response curve and then voltage should fall off sharply as you go down in frequency.

You can look at the circuit and see you will need more than 12vdc. Depends on what you want to do. If you want to just see if you have proper step-up thru L41 and proper gain at Q1 Drain need one set of conditions. If you want to see if the board can produce RIF output and jumper that to the IF board you will need to inject VCO LO signal. Ideally you also need 9vdc to control the receiver attenuator at input to buffer amp Q2. Bias voltage is used to control D3 which switches capacitive voltage divider to shunt signal to ground on the low bands and provide full gain on 10 meters. Dont have to have the feature but good time to test it. It gets its bias from the bandswitch diode matrix. So you can just apply 9vdc at Conn 2.

Make sure that you have the bandswitch shaft inserted and you get all the dot/impressions aligned properly if you move the shaft around during bench testing. All wafers need to be back at 9:00 when you are ready to re-install the board.

Look at Q5 switch. You need to get it turned on. You need RLR to turn it on so you can ground the Source of the mosfets. You will need bias on Gate 1 of Q1 and AGC control voltage on Gate 2 of Q1. So you need RB1 of approx 1vdc for Gate 1 and approx 3vdc for AGC. It is actually pretty simple to do with dc bench supply and flashlite batteries.

I always try to bench test RF board whenever I make repairs to it. Too much work to put it back in and find didnt fix it. I bench test the rewound L41 and then install it back in the RF board and then test the board.

Terry K9TW

47298. RE: Bad electro. Caps?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-30 22:57:17 UTC
From: <wagstw46@...>
Topic: 47286 Message: 47298

OK I mis-spoke. I am so Happy. A reader pointed this out to me. The typing is not for my health! Someone reads this junk. Just wish they wouldnt lurk in the shadows. We need people to help with this stuff.

You have not measured MDS (minimum discernable signal level). This simple test with the VTVM tells you if the receiver noise gain is typical. It is a simple test that any ham with a VTVM can do.

To measure MDS you need a good RF sig gen with a calibrated 1uv output signal. Here is procedure in case you have the test gear and just have never done the test;

1. Basically do the same set up I described and connect a VTVM or DMM across your speaker or 8 ohm dummy load. Set RF gain full CW and AF gain full CW. I would use 8 ohm 2 watt dummy load resistor so dont damage your speaker.
2. I would do this on 20 meters. Turn off the AGC. Inject 1uv (-107dBm) at 14.2 mhz. Peak the Drive control for max volume. If volume is damaging your speaker you can turn it down, but do not touch it until test is over. As noted above the dummy load across ext speaker jack solves this problem, but if you dont have one then reduce AF gain to prevent damaging the speaker.
3. Measure the voltage across the speaker or dummy load and record it. Lets say it is 1.0 rms volts. This is the S+N or signal plus noise reading.
4. Turn off the RF sig gen or remove it from SO-239. Measure the voltage across the speaker or dummy load and record it. Lets say it is 0.085 rms volts. This is the N or noise voltage being produced by your receiver. Now you need to calculate the S+N/N ratio. You have seen this before in receiver specs.

Do simple calc (need scientific calculator) :

1. Divide S+N/N or 1.0/0.085 = 11.76
2. Take log of 11.76 = 1.07
3. Multiply 1.07 x 20 = 21.4 dBm
4 -107dBm (1uv) - 21.4 dBm = -128.4 dBm
5. -128dBm = 0.089uv

Your MDS is -128dBm

Terry K9TW

47299. RE: [TS-520_820_530_830] Bad electro. Caps?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-31 04:48:13 UTC
From: fpath fpath
Topic: 47286 Message: 47299

Brian,

Just for info, and as Joe pointed out about radio nosie floor. I spend several weeks going crazy on my original 530s after taking out the 8.8Mhz mods for the SM220 pan display, which I might add does deafen the radio some 3Db. So using head phones I noticed a difference in the radio nosie floor, I wasted many hours going through the radio checking and doing similar test as Terry, suggested to you. I eventually pulled out my spare 530s and there was no difference. For me personally, if the tests Terry, has recommended come within spec, dont fuss to much. You may think about replacing diodes, but I doubt one would notice the difference unless hooked up to analyzers and plotting graphs. This is also assuming your radio isn't deaf. No matter what we are here to help

73s

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: stilesjoseph@...
Date: Thu, 30 Jan 2014 10:24:56 -0800
Subject: Re: [TS-520_820_530_830] Bad electro. Caps?

Brian,

You will ALWAYS have some "hiss," when the volume is turned even slightly up. This is the inherent "noise" of the receiver ." Even replacing the "old" stuff with "new" stuff will not eliminate
the "hiss." Now if you have a "hum," that's a bit different..and indicates a possible 60Hz signal making it through.

73 Joe
WB7UQU

On Thursday, January 30, 2014 9:23 AM, Gordon JC Pearce <gordon@...> wrote:

On Thu, Jan 30, 2014 at 09:10:03AM -0800, bsa0791@... wrote:> If the caps are going bad in the TS 530 what indication will you have on receive. I have a predominate hiss in the rx audio. No matter what you do, change bands, modes, antenna unplugged, its there. The rx and s meter are fine, just the hiss. The his is controlled by the volume.> > Brian kb4mngIt's going to hiss at least a bit. Is this distinct from the "RF noise" hiss?I have hardly ever (maybe half a dozen in 25 years or so) seen an electrolytic capacitor fail, that wasn't in a cheap shitty switched-mode power supply. If any electrolytic is going to fail in one of the Trio hybrids, it will be a PSU capacitor and you'll know it's happened ;-)-- Gordonjcp MM0YEQ

47300. Intermittent Transmit for 530S?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-31 04:10:47 UTC
From: <ns2p_tx@...>
Topic: 47300 Message: 47300

I'm new to hybids - in fact I'm pretty new to HF period. Been a repeater rat for 5 years. I seem to be having an issue with my 530S. I know I'm tuning it up well and all seems good but problems on transmit. I've tried two different mics as I thought it could be a short. When I transmit (I've done this on what seems to be an unoccupied frequency) my meters show what looks like I'm keying/unkeying mic - even though I'm not. I've attached link to short video I made of the issue. Thanks in advance for any help! 73 - CP
http://jmp.sh/b/8gVk4w8UGVr5G5sW7Lpc http://jmp.sh/b/8gVk4w8UGVr5G5sW7Lpc

CP, your messages/posts need to be signed with your: first name and call according to the groups http://jmp.sh/b/8gVk4w8UGVr5G5sW7Lpc
identification policy http://jmp.sh/b/8gVk4w8UGVr5G5sW7Lpc

73 Joe - WB7UQU http://jmp.sh/b/8gVk4w8UGVr5G5sW7Lpc
TS-520_820_530_830 G yahoo group Co-owner http://jmp.sh/b/8gVk4w8UGVr5G5sW7Lpc

47301. RE: Intermittent Transmit for 530S?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-31 06:57:54 UTC
From: <wallydoc@...>
Topic: 47300 Message: 47301

Hi Joe
Let me first say that it could be lots of things, but I would check out and clean the relays.
A weakpoint in the 530 is the band switch, clean it gently.
Just some suggestions, at least a place to start..

Wally
KC9INK

47302. RE: [TS-520_820_530_830] Intermittent Transmit for 530S?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-31 07:03:59 UTC
From: fpath fpath
Topic: 47300 Message: 47302

CP,

It seems like your getting RF feedback, do you have a decent earth connected to the radio etc? Also have you checked the earth on the mic?

73s

Dave

VK5PDL

From: ns2p_tx@...
To: TS-520_820_530_830@yahoogroups.com
Date: Thu, 30 Jan 2014 20:10:47 -0800
Subject: [TS-520_820_530_830] Intermittent Transmit for 530S?

I'm new to hybids - in fact I'm pretty new to HF period. Been a repeater rat for 5 years. I seem to be having an issue with my 530S. I know I'm tuning it up well and all seems good but problems on transmit. I've tried two different mics as I thought it could be a short. When I transmit (I've done this on what seems to be an unoccupied frequency) my meters show what looks like I'm keying/unkeying mic - even though I'm not. I've attached link to short video I made of the issue. Thanks in advance for any help! 73 - CP

http://jmp.sh/b/8gVk4w8UGVr5G5sW7Lpc

CP, your messages/posts need to be signed with your: first name and call according to the groups
identification policy

73 Joe - WB7UQU
TS-520_820_530_830 G yahoo group Co-owner

47303. RE: [TS-520_820_530_830] Intermittent Transmit for 530S?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-31 07:06:30 UTC
From: fpath fpath
Topic: 47300 Message: 47303

CP,

As the video is a little dark, I am basing my thoughts on you are switching to dummy load from an active antenna. Does this only happen when you swtich to active antenna and no issues when in dummy load?

73s

Dave

VK5PDL

I'm new to hybids - in fact I'm pretty new to HF period. Been a repeater rat for 5 years. I seem to be having an issue with my 530S. I know I'm tuning it up well and all seems good but problems on transmit. I've tried two different mics as I thought it could be a short. When I transmit (I've done this on what seems to be an unoccupied frequency) my meters show what looks like I'm keying/unkeying mic - even though I'm not. I've attached link to short video I made of the issue. Thanks in advance for any help! 73 - CP

http://jmp.sh/b/8gVk4w8UGVr5G5sW7Lpc

CP, your messages/posts need to be signed with your: first name and call according to the groups
identification policy

73 Joe - WB7UQU
TS-520_820_530_830 G yahoo group Co-owner

47304. RE: [TS-520_820_530_830] RL1 replacements

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-31 07:22:40 UTC
From: fpath fpath
Topic: 47300 Message: 47304

Hi All,

Just an update, I am currently negotiating with a distributor for the

RL-1 AF board\IF board flat pack relay for the 830 and 530 series. I am also working with knowledgeable members to ensure these are the exact relays. Hopefully these will work out with only one issue, a 45 - 60 day delivery date due to the relays being manufactured, cost is still being negotiated, but should be in or around the current price.

Further to Terry's, mention of the 530s relay FBR321D012. If there is enough interest from amateurs then I will be able to source a reasonable 1x of bulk purchase, but I will be looking to move these on as quick as possible, as it is a large outlay. Anyone interested in the FBR321D012, for the 530s, please email me off list so I can workout if this will be viable and to get the price as low as possible.

FYI I am not looking to do this as a business, just purely doing it to keep our radios and members on air. It is Friday afternoon here so may not be able to update until next week.

73s
Dave
VK5PDL

47305. Re: [TS-520_820_530_830] Can TS-530SP run on DC instead of AC?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-31 07:35:13 UTC
From: <wallydoc@...>
Topic: 46957 Message: 47305

I dont know if its worth the trouble.
I don't know if the transformers are the same in the S and SP models,
but if they are you can get a converter from another model and hook it up.
I did look at the schematics of the 530 and 520.
The transformers look alike.
But to add the Kenwood converter looks like a lot of work. Lots of wiring.
I have three converters in a box. One went pop on an old rig when using 120AC.
Fortunately the rig was in the garage, not the house.
I think someone miswired it.
I fixed the rig, disconnected the converter.
So I never use them.
Wally
KC9INK
KC9INK

47306. Re: Bad electro. Caps?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-31 11:23:05 UTC
From: Brian Allen
Topic: 47286 Message: 47306

Thanks guys!

47307. RE: Intermittent Transmit for 530S?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-31 11:35:39 UTC
From: <wagstw46@...>
Topic: 47300 Message: 47307

Would be better to see and focus on the the transmitting rig panel meter than the receiving rig.

Is the mic gain turned up? What are you seeing on the ALC meter on the keyed transmitter?

Turn the mic gain down full CCW on the keyed rig and repeat.

Are you switching these two rigs back and forth between a common antenna? If so must make sure antenna switch has good isolation between ports and no way to accidently apply transmit RF into the SO-239 of the receiving rig.

Terry K9TW

47308. Re: Bad electro. Caps?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-31 12:08:16 UTC
From: <wagstw46@...>
Topic: 47286 Message: 47308

Brian

I have to assume this is not a new issue as I inquired about?

Let us know if you do the simple noise gain test with a VTVM.

As a point if interest regards MDS. No one can hear signals at the noise floor. For that reason MDS is measured at 3dB above the noise floor. In practice few can hear signals there with exception of perhaps seasoned weak signal CW operators. So 10 dB above the noise floor is where you see most receiver sensitivity specs.

Look at the spec sheet in your KW hybrid owners instruction manual. If you own a TS520 you will see 0.50uv on 3.5 to 21 mhz S+N/N 10dB and on 30mhz 1.0uv S+N/N 10dB. 10 meter performance isnt that good but you can compensate for it with a directional gain antenna. Usually not a problem when the band is open.

Overall performance was improved on the TS520S and subsequent models to sensitivity spec of 0.25uv on all bands S+N/N 10dB. Never seen a KW Hybrid in good state of tune that could not hear a 0.25uv signal (-119dBm).

We have not talked about listening fatigue and no one has talked about operator practice. People forget or really dont know what the RF gain pot is for and it is OK to operate it. Most simply run it wide open. Part of fun of operating a receiver is to operate it. Old timers learned to ride the RF gain pot so not always listening to high level of background noise. By riding the RF gain control you can control the range of the AGC to some degree as it isnt smart enough to distinguish between signal and noise.

If you do some fundamental testing and determine your receiver noise floor and noise gain is normal try riding the RF gain control during certain copy conditions and see if that doesnt make your listening more enjoyable.

Not saying you dont have a noise issue. Just dont know absent hands on look at your radio.

Terry K9TW

47309. Re: [TS-520_820_530_830] TS830S No Output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-31 12:19:06 UTC
From: <keith.hutt@...>
Topic: 47087 Message: 47309

Hi Mike,

I have taken the reading you asked for it is -250VDC

Regards

Keith G0TSH

47310. Two questions on AT-230 and AT-250 Antenna Tuners

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-31 14:03:04 UTC
From: Jim Jezek
Topic: 47310 Message: 47310

1st Question: I have a broken AT-230 antenna tuner. The X-Tune knob is broken from the nylon shaft just behind the faceplate on the module. From what I've been able to surmise, the nylon shaft is contiguous with the rest of the components on the shaft and would have to replaced as an entire part. So, any suggestions on where I might find a replacement X-Tune assembly?

2d Question: My rig is a TS-530S running an 80-10M G5RV longwire. My Drake antenna tuner seems to work well (most of the time). But, I am looking at a Kenwood AT-250 that looks like it might do the job better. Anyone have experience with the AT-250 working with a TS-530S? I'd appreciate any insights.

Thanks,

Jim Jezek
KD0VQE
Cedar Rapids, IA

47311. Re: [TS-520_820_530_830] TS830S No Output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-31 15:12:35 UTC
From: Mike W5RKL
Topic: 47087 Message: 47311

Keith,

Are you sure you connected your DC meter probes correctly, the RED meter lead to the Rectifier Unit's 210A terminal and the BLACK lead to the Rectifier Unit's SG2 terminal?

There is no component(s) between the Rectifier Unit's 210A terminal and the Rectifier Unit's SG2 terminal, other than the Rectifier Unit's RL1 relay terminals, that would result in a voltage drop of 250 volts!!

73
Mike W5RKL

On 1/31/2014 6:19 AM, keith.hutt@... wrote:
>
> Hi Mike,
>
>
> I have taken the reading you asked for it is -250VDC
>
>
> Regards
>
>
> Keith G0TSH
>
>

47312. RE: BAsic Radio Course

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-31 16:42:04 UTC
From: <roberteleazer@...>
Topic: 47238 Message: 47312

A terrific source of books on electronics, especially how electron tubes work and basic radio, is the website Tubebooks.org. They are all available for download for free. I even bought some DVDs with all of the books on it.

I recommend y'all check out that site.

Robert
WB5WSV

47313. Re: [TS-520_820_530_830] Bad electro. Caps?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-31 15:54:57 UTC
From: Jim W7RY
Topic: 47286 Message: 47313

The last several FT-1000Ds that I have worked on have had shorted electrolytic capacitors. FT-1000s have hundreds of those yellow 10 uF caps in them.

73
Jim W7RY

47314. Re: [TS-520_820_530_830] dial digits switch early on TS820 remote VFO

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-31 12:46:50 UTC
From: <sylvstrmchl@...>
Topic: 46806 Message: 47314

Greg, did you ever get a satisfactory response to your question?
I'm exploring the archives and came across this. Trying to find best route to fix Gold Label pegging meter in IP tune step.

I apologize AHEAD of time if 63 other comments end up attached to my message.
Still unsure how to reply without that happening. Too much time in buggered up computers and getting this one up and set the way I need it.
Still getting the default Windows email when I try to send messages to individuals or group replies, have to copy and paste their addy into new window.....
Computers.....

I'm now rebuilding TS-820 VFO's, that's why I asked. Will be a bit, maybe a couple more before I'm 100% confident I can do this 100% reliably.
Spray with Deoxit is standard procedure.

"An ILL Wind Blows"

Michael///KD0WSJ

Michael, what ever adjustment(s) you have made to your email program
seem to have worked. No unecessary attachments. TNX! Joe - WB7UQU

47315. Optional Front Feet

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-31 18:55:08 UTC
From: <wagstw46@...>
Topic: 47315 Message: 47315

A note of caution.

I have had two TS530 rigs here this month and both had replacement rubber front feet (not KW originals but cone shaped). These cone shaped or tapered rubber feet are being supplied with very long screws. The problem is on the left side (looking from the bottom with front panel facing you) the long screw is contacting the audio amp heat sink and machining threads in it and leaving metal shavings as it is tightened. On the other side the screw is in the clear.

The aluminum heat sink is designed with a cut out to provide clearance for the factory screw.

You do not want aluminum shavings on the audio board or dropping else where in the rig. I vacuum out with shop vac as I am afraid if I use compressed air I might drive the aluminum shavings and dust and lodge them somewhere and induce a short.

Terry K9TW

47316. TS-820 frequency jumping

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-31 19:05:03 UTC
From: <coyoteinventor@...>
Topic: 47316 Message: 47316

Hi group!

Last time I posted here my radio was working very well (mostly) after doing a complete cleanup of all contacts on all the boards, cleaning the VFO, and re-soldering all the components in the freq. display unit. The display was stable and visible, and the frequency stayed put. That lasted 3 or 4 months. :-(

Before the holidays the radio started acting up again. The frequency jumps around 3KHz above/below the tuned station, and sometimes even more. It is not the display unit because I tune on a station, and the OM on the other side jumps in and out (with even some chirps). Same thing happens when I try to transmit and the OM on the other side says he can hear me on and off and can not make out anything I say. Sometimes, not often anymore, the frequency remains stable and I can use the radio for a little while.

Following some advice online, I re-cleaned the VFO, specially the wiper, to ensure there is proper grounding. I also removed the AF-AVR board, and cleaned all its contacts again, and even added some more solder to the board where it touches the case, to ensure proper grounding. Doing this changed nothing; the frequency still jumps all over the place.

I do remember seeing one more thing online, some time ago, about using a 9V battery to test if it's an unstable 9V supply, but I can't find that website again and I am not sure how to go about doing this test.

Any advice on what else I can try?

Thanks in advance for your help, and have a great weekend!

Cesar -- K1TNT

47317. RE: TS-820 frequency jumping

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-31 20:16:49 UTC
From: <roberteleazer@...>
Topic: 47316 Message: 47317

Cesar:

Two other things to consider for that kind of a problem:

1. The filter caps in the carrier generator board can cause exactly this kind of problem if they go bad. Over at MODS.DK they have an article on that and how to fix it. I have a copy and can send it to you if you can't find it there.

2. The PD unit (the board on the bottom below the heterodyne oscillator) has a tantalum cap, 0.22 mfd, I think. I saw in the TS-820 Service Bulletins where that cap going bad can cause noise in the receiver. I thought my 820 sounded kind of noisy compared to my TS-520 and changed that cap. I used a ceramic cap rather than tantalum. And when I put the board back in the 820 it was doing just what you describe. It appears that the wrong kind of cap in the PD board can cause that and presumably that includes a cap that has gone bad. Fortunately I had a spare PD board to put in the radio.

Good Luck!

Robert
WB5WSV

Goo

47318. Re: [TS-520_820_530_830] Can TS-530SP run on DC instead of AC?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-31 21:28:10 UTC
From: <james27613@...>
Topic: 46957 Message: 47318

Hi Wally,

Look for a used APC brand UPS on ebay or the swap meets,
the Smart UPS models can run off a battery w/o any AC,
autostart is the feature.

You can power the UPS with an external battery using powerpole connectors
or your favorite type of connector.

The SmartUPS series puts out a full sine wave, makes the radios very happy,
instead of a step or modified sine wave.

Often you can get them without the batteries, saves you on the shipping too,
look for a seller local to you to save on the shipping.

73 james ke4drn

47319. RE: TS-820 frequency jumping

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-31 21:38:45 UTC
From: <coyoteinventor@...>
Topic: 47316 Message: 47319

Robert (WB5WSV),

It seems like free members of mods.dk have very limited access to their files. ;-)

Cesar -- K1TNT

47320. Re: [TS-520_820_530_830] TS-820 frequency jumping

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-31 22:46:42 UTC
From: Mark Gilger
Topic: 47316 Message: 47320

Did you ever perform Kenwood Tech Bulletin #26
"Service Note on DG-1" ? It's where you pull out
the counter boards and re-solder all of the feed
through plated holes? In addition it's
recommended that the user put a wire through each
feed through and solder both sides.

http://wb4hfn.com/KENWOOD/Articles/SERVICE%20NOTES%20-%20ALL%20HYBRIDS.pdf

Mark, WB0IQK

At 02:05 PM 1/31/2014, coyoteinventor@... wrote:
>
>
>Hi group!
>
>
>Last time I posted here my radio was working
>very well (mostly) after doing a complete
>cleanup of all contacts on all the boards,
>cleaning the VFO, and re-soldering all the
>components in the freq. display unit. The
>display was stable and visible, and the
>frequency stayed put. That lasted 3 or 4 months. :-(
>
>Before the holidays the radio started acting up
>again. The frequency jumps around 3KHz
>above/below the tuned station, and sometimes
>even more. It is not the display unit because I
>tune on a station, and the OM on the other side
>jumps in and out (with even some chirps). Same
>thing happens when I try to transmit and the OM
>on the other side says he can hear me on and off
>and can not make out anything I say. Sometimes,
>not often anymore, the frequency remains stable
>and I can use the radio for a little while.
>
>Following some advice online, I re-cleaned the
>VFO, specially the wiper, to ensure there is
>proper grounding. I also removed the AF-AVR
>board, and cleaned all its contacts again, and
>even added some more solder to the board where
>it touches the case, to ensure proper grounding.
>Doing this changed nothing; the frequency still jumps all over the place.
>
>I do remember seeing one more thing online, some

>time ago, about using a 9V battery to test if
>it's an unstable 9V supply, but I can't find
>that website again and I am not sure how to go about doing this test.
>
>Any advice on what else I can try?
>
>Thanks in advance for your help, and have a great weekend!
>
>Cesar -- K1TNT
>

47321. Re: [TS-520_820_530_830] TS-820 frequency jumping

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-31 22:50:13 UTC
From: Mark Gilger
Topic: 47316 Message: 47321

Also bulletin #53 "DG-1 Standard Service Procedure". Sorry I forgot that one.

Mark, WB0IQK

==========

Did you ever perform Kenwood Tech Bulletin #26
"Service Note on DG-1" ? It's where you pull out
the counter boards and re-solder all of the feed
through plated holes? In addition it's
recommended that the user put a wire through each
feed through and solder both sides.

http://wb4hfn.com/KENWOOD/Articles/SERVICE%20NOTES%20-%20ALL%20HYBRIDS.pdf

Mark, WB0IQK

At 02:05 PM 1/31/2014, coyoteinventor@...m wrote:
>
>
>Hi group!
>
>
>Last time I posted here my radio was working
>very well (mostly) after doing a complete
>cleanup of all contacts on all the boards,
>cleaning the VFO, and re-soldering all the
>components in the freq. display unit. The
>display was stable and visible, and the
>frequency stayed put. That lasted 3 or 4 months. :-(
>
>Before the holidays the radio started acting up
>again. The frequency jumps around 3KHz
>above/below the tuned station, and sometimes
>even more. It is not the display unit because I
>tune on a station, and the OM on the other side
>jumps in and out (with even some chirps). Same
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>and can not make out anything I say. Sometimes,
>not often anymore, the frequency remains stable
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>even added some more solder to the board where
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>I do remember seeing one more thing online, some
>time ago, about using a 9V battery to test if
>it's an unstable 9V supply, but I can't find
>that website again and I am not sure how to go about doing this test.
>
>Any advice on what else I can try?
>
>Thanks in advance for your help, and have a great weekend!
>
>Cesar -- K1TNT
>

47322. Looking For TS-520S Front Panel

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-31 20:23:14 UTC
From: Byron
Topic: 47322 Message: 47322

Hello- I am looking for a front panel for the TS-520S if anyone has one, in very nice shape, for sale.
Thanks, Byron WA5THJ

47323. RE: Replacement Mic Clip for a MC60A

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-31 22:27:49 UTC
From: <kd0tl@...>
Topic: 47290 Message: 47323

I obtained two MC-60A 'mic clips' direct from "Kenwood USA" (the US distributor for Kenwood products) several years ago. You might try "Kenwood Europe" on the internet to obtain their email or phone number. Breaking these 'clips' is so common that surely they still supply them as spare parts.

73 and Good Luck,
Mike
W0HR

47324. Re: [TS-520_820_530_830] Optional Front Feet

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-31 19:45:37 UTC
From: Michael Sylvester
Topic: 47315 Message: 47324

I've been using those feet on my rigs, really like a radio propped up in front.
Using the stock original foot with the center hole screw to add another step, I put those on for total of over an inch.
I also sit it on a 2 X 2.....gets it up in the air and I route the mic cable under and to the side.
Also gives me room to slide my hand key under Rig to reduce clutter.

I thought the supplied screws that came with those feet from Mr. Kepski were same length as stock.
Might have been changed, or because these are soft rubber, will tighten to a greater depth than the original stock screws with hard plastic original feet.

Thanks for the heads up caution Terry.

"Justice is what a Man MUST TAKE for Himself"
Michael///KD0WSJ

On Friday, January 31, 2014 12:55 PM, "wagstw46@..." <wagstw46@...> wrote:

A note of caution.

I have had two TS530 rigs here this month and both had replacement rubber front feet (not KW originals but cone shaped). These cone shaped or tapered rubber feet are being supplied with very long screws. The problem is on the left side (looking from the bottom with front panel facing you) the long screw is contacting the audio amp heat sink and machining threads in it and leaving metal shavings as it is tightened. On the other side the screw is in the clear.

The aluminum heat sink is designed with a cut out to provide clearance for the factory screw.

You do not want aluminum shavings on the audio board or dropping else where in the rig. I vacuum out with shop vac as I am afraid if I use compressed air I might drive the aluminum shavings and dust and lodge them somewhere and induce a short.

Terry K9TW

47325. RE: Two questions on AT-230 and AT-250 Antenna Tuners

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-31 20:06:28 UTC
From: <big_argus@...>
Topic: 47310 Message: 47325

If you have the mechanical clearance and the shaft is broken in a manner that it can be mated exactly as it was, a small amount of epoxy might take care of it. Just make sure it only gets where needed. How much clearance around the break? A small metal hose clamp or a wide cable tie might help in addition to the epoxy. I haven't been inside one of these, so I can't really picture where the break is.

James Craft
KG5AAQ
Lake Cormorant, MS

47326. RE: Two questions on AT-230 and AT-250 Antenna Tuners

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-01-31 23:47:26 UTC
From: <jkjezek@...>
Topic: 47310 Message: 47326

The knob has about an eigth of an inch extruding into the opening in the tuner faceplate. I'll have to check the clearance to see if a hose clamp might solve the problem. It looks fairly snug in the hole in the face plate so I'm leery of epoxy. I suppose I can always ream the opening a bit more to provide clearance.

Jim Jezek
KD0VQE
Cedar Rapids, IA

47327. Re: [TS-520_820_530_830] TS-820 frequency jumping

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-01 00:26:57 UTC
From: Michael Sylvester
Topic: 47316 Message: 47327

I'll ask again, not having that bulletin,
Has anyone an accurate count on how many solder holes there are?
I've asked 5 times now.....unless somebody has answered and I missed it.
I counted 16 holding the one board up to a light.
None on the second board.

"Communications, Power to Make Emperors and Kings Look Like Fools"
Michael///KD0WSJ

On Friday, January 31, 2014 4:50 PM, Mark Gilger wrote:

Also bulletin #53 "DG-1 Standard Service Procedure". Sorry I forgot that one.

Mark, WB0IQK

==========

Did you ever perform Kenwood Tech Bulletin #26 "Service Note on DG-1" ? It's where you pull out the counter boards and re-solder all of the feed through plated holes? In addition it's recommended that the user put a wire through each feed through and solder both sides.

http://wb4hfn.com/KENWOOD/Articles/SERVICE%20NOTES%20-%20ALL%20HYBRIDS.pdf

Mark, WB0IQK

47328. Re: [TS-520_820_530_830] RE: Two questions on AT-230 and AT-250 Antenna Tuners

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-01 00:37:37 UTC
From: Michael Sylvester
Topic: 47310 Message: 47328

Or possibly a wire wrap. I've been thinking on the sprocket problem. If it's just a crack multiple wraps of finer wire may be a permanent fix.
Think of the file handles with over an inch of wire wrapped on the wooden handles.
Each additional wrap adds strength, the more wraps the stronger the mend.
Also looked at that website for sprockets, just too busy right now to explore it.

"It's a great Big Club and you Ain't in it"
Michael///KD0WSJ

this post edited for content as it contained already posted material-WB7UQU

47329. Re: [TS-520_820_530_830] TS-820 frequency jumping

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-01 03:55:19 UTC
From: <stilesjoseph@...>
Topic: 47316 Message: 47329

Michael,

A few minutes taken to "Google" the "Kenwood DG-1 service bulletins," would have shown you that there are
18(eighteen). All of the "through holes" or "vias" a some call them...are accessible from both sides of the board.

There is 1(one) that is only accessible from the "bottom" side as it is under an IC chip.

47330. Re: [TS-520_820_530_830] TS-820 frequency jumping

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-01 04:00:09 UTC
From: Joseph Stiles
Topic: 47316 Message: 47330

apoligies to the group the preceding reply was done by the person below.

Trying to do to many things at the same time

73 Joe
WB7UQU
Group Co-owner

On Friday, January 31, 2014 7:55 PM, "stilesjoseph@..." <stilesjoseph@...> wrote:

>Michael,
>
> A few minutes taken to "Google" the "Kenwood DG-1 service bulletins," would have shown you that there are
>18(eighteen). All of the "through holes" or "vias" a some call them...are accessible from both sides of the board.
>
>There is 1(one) that is only accessible from the "bottom" side as it is under an IC chip.
>
>
>

47331. While searching for relays, found a source for old parts - tubes/transistors.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-01 04:00:23 UTC
From: Wes Will
Topic: 47331 Message: 47331

A fellow wanting to start a Ham's salvage business, for things too "nice" to get rid of.

If anyone wishes a copy of the information he sent to me (it is an MS Excel spreadsheet, let me know if you can't read it and I'll convert to something else, like plain flat text, for you) please contact me OFF T HIS LIST and I will email it to you same as I got it. It's got bits I think people can use for other radios, don't know if any of the parts at all (transistors) will cross to Kenwood replacement parts, haven't had a chance to look.

MIGHT have a breakthrough in relays though, hold onto your hats about those. Anyone in need of one or two relays, well, send me an email, I'm not sure how many altogether we can get.

--
Wes Will
N9KDY

47332. Re: [TS-520_820_530_830] TS-820 frequency jumping

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-01 05:59:40 UTC
From: <coyoteinventor@...>
Topic: 47316 Message: 47332

Mark,

As I mentioned in my original post, it is not a problem with the display unit. I did do work on the display unit some months ago and re-soldered everything, and the display has been working great since then. The current problem is with the frequency itself, as I can hear it jumping around.

Thanks for your suggestion though! ;-)

Cesar -- K1TNT

47333. Re: [TS-520_820_530_830] TS-820 frequency jumping

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-01 13:19:45 UTC
From: <wagstw46@...>
Topic: 47316 Message: 47333

I assume at no time the display goes blank?

Do you have a frequency counter? Might look at the VCO output signal and see if it is moving around.

Maybe cycle the Tun/Norm switch on VCO board?

Need stable VFO to feed the PD. Are couple of other Mixers which need stable input signals including from the Carrier and Het Oscillators.

I suppose could even be a dirty molex connector. Just need to break out the schematic and use O-scope or RF millivolt meter and Freq Counter and confirm required signals are not moving around. I would look at VFO, Carrier Oscillators, Het Osc and VCO signals for starters. When I say look I mean not only at the source but where they are used. No good to just verify VFO signal is good at output of the VFO. Need to look at it where it is used. Same with all required Osc signals.

For example OK to look at VCO on TP-5 on VCO board but also need to make sure it is right level and freq at TX and RX Mixers on RF board at Molex conn RF-1 and at TP on the board.

Terry K9TW

47334. Re: [TS-520_820_530_830] RE: Two questions on AT-230 and AT-250 Antenna Tuners

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-01 13:30:20 UTC
From: <wagstw46@...>
Topic: 47310 Message: 47334

Michael:

If we lived on deserted island and rig was our life blood we would use tie wire, nylon cable ties, dental floss coated with epoxy, copper tube sleeves, heat shrink, JB weld, rubber bands, chewing gum, etc to "fix" these sprockets.

Everyone has different definition of quality and workmanship. Everyone has different levels of disposable income. Some dont care what their rigs look like inside or out they just want them to work and even then the definition of "work" greatly varies. I have had VFO knobs that I thought were on an eccentric and when I called customer for repair authorization they said they had not noticed. Kind of sad.

For some it is fun to do these kind of back yard fixes and for others it would not be acceptable. We are very close to having brand new sprockets that have been re-designed to address the design flaw at the tapped holes. I for one will be in line to purchase them to replace the cracked and temporarily "fixed" ones in both of my near mint TS-830s. Just the way I am built and think.

Tie wire has been previously suggested and used.

Terry K9TW

47335. Re: [TS-520_820_530_830] TS830S No Output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-01 13:10:29 UTC
From: <keith.hutt@...>
Topic: 47087 Message: 47335

Hi Muke,

I have double checked the reading is as stated -250VDC

Keith G0TSH

47336. Re: [TS-520_820_530_830] TS830S No Output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-01 14:35:26 UTC
From: W5RKL
Topic: 47087 Message: 47336

Keith,

Have you watched my series resistor video that shows how to determine a voltage drop across a simple resistor? It's an example of what I have asked you to do to measure the voltage drop across the simple 210A and SG2 terminal circuit! My series video can be found at the following link:

http://www.n6wk.com/w5rkl/Basic%20Ohms%20Law/Series%20Resistors.wmv

My next question now is:

If you say there is a 250 volt drop that is occurring between the Rectifier Unit's 210A and SG2 terminals, than what is the voltage NOW at the SG2 terminal?

73
Mike W5RKL

On 2/1/2014 7:10 AM, keith.hutt@... wrote:
>
> Hi Muke,
>
>
> I have double checked the reading is as stated -250VDC
>
>
> Keith G0TSH
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

47337. Re: [TS-520_820_530_830] RE: Two questions on AT-230 and AT-250 Antenna Tuners

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-01 09:51:26 UTC
From: Michael Rolph
Topic: 47310 Message: 47337

As a retired musical instrument repairer I could suggest this method of repair.
If you have access to a set of mini drills and associated taps and dies you could drill a small hole in each side making sure they are both central and then tap them and insert a short length of threaded rod, and just to make sure a little epoxy to stop it moving. Or plain rod and epoxy it in.

73 de Mike M0MCY

On Saturday, 1 February 2014, 3:41, Michael Sylvester <sylvstrmchl@...> wrote:

Or possibly a wire wrap. I've been thinking on the sprocket problem. If it's just a crack multiple wraps of finer wire may be a permanent fix.
Think of the file handles with over an inch of wire wrapped on the wooden handles.
Each additional wrap adds strength, the more wraps the stronger the mend.
Also looked at that website for sprockets, just too busy right now to explore it.

"It's a great Big Club and you Ain't in it"
Michael///KD0WSJ

this post edited for content as it contained already posted material-WB7UQU

47338. RE: Looking For TS-520S Front Panel

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-01 17:07:05 UTC
From: <ke5ftf@...>
Topic: 47322 Message: 47338

Hi Bryon,
I should have a nice Front Face for the 520S...
Sell them for $35.00 plus my cost of mailing...
Bob
KE5FTF

47339. RE: TS-820 frequency jumping

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-01 17:58:46 UTC
From: <roberteleazer@...>
Topic: 47316 Message: 47339

That is quite true! But you only need the one article on the carrier board.

Robert
WB5WSV.

47340. Re: [TS-520_820_530_830] TS-820 frequency jumping

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-01 05:01:17 UTC
From: Michael Sylvester
Topic: 47316 Message: 47340

Darn computer keeps changing
programs.....
I guess I need to try the Google once in awhile.
Haven't but that's obvious. I would've thought it had been answered many times in past, thought a quick response would have been normal, common knowledge, darn convenient while I had the boards out! Get the next one though.

18, dangit I guess I missed 2, the worst of
course.
Thank you Mr. Stiles.

"A pain in the Relay"
Michael///KD0WSJ

On Friday, January 31, 2014 10:03 PM, Joseph Stiles <stilesjoseph@...> wrote:

apoligies to the group the preceding reply was done by the person below.

  Trying to do to many things at the same time

73 Joe
WB7UQU
Group Co-owner

On Friday, January 31, 2014 7:55 PM, "stilesjoseph@..." <stilesjoseph@...> wrote:

>Michael,
>
> A few minutes taken to "Google" the "Kenwood DG-1 service bulletins," would have shown you that there are
>18(eighteen). All of the "through holes" or "vias" a some call them...are accessible from both sides of the board.
>
>There is 1(one) that is only accessible from the "bottom" side as it is under an IC chip.
>
>

47341. K4EAA has Flatback relays in stock this morning.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-01 13:28:00 UTC
From: Michael Sylvester
Topic: 47341 Message: 47341

Good morning Gentlemen!!

Just went to K4EAA.com to replace what I put into my Gold Label over the last 24 hours.
Ken just restocked some flatback relays for the 530 and 830.
Of course I ordered 20.....(no, not really).

In the Gold Label in the last 24 hours:
Replaced the HV caps, no 0's this time!

New Blue relay, with custom seal, (explain later, remind me!)

New Cathode 20's, had a 0, 116, 166 and a 198.....pegging IP in tune.

Band switch coupling, old one broken and glued! Fun to get out!

Neutralized with new scope, bought a beautiful used Tektronix with a superb manual that includes calibration specs!
Looking at 6146B to order, anyone use the Taylors from RF Parts?

$46 a pair, not bad.
She's on the air with the Breakfast Club. Strange band conditions this morning about 6am CT.....short, long, short ,long.....
Getting good signal reports and she's working GREAT!!
(Once I figgered out the VBT!, man that sounds weird when way CCW....)
Wow, what a receiver!!!!!

"The Men in high places Must be the ones to start"
Michael///KD0WSJ

47342. Re: [TS-520_820_530_830] TS830S No Output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-01 18:38:21 UTC
From: <keith.hutt@...>
Topic: 47087 Message: 47342

Mike

I have just checked SG2 Voltage, Black lead to ground, Red Lead to SG2 +242VDC.

Keith G0TSH

47343. RE: K4EAA has Flatback relays in stock this morning.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-01 21:12:10 UTC
From: <davidcuttler@...>
Topic: 47341 Message: 47343

Michael,

I tried the Taylor tubes from RF Parts in my 830S, and they were very poor. I called them, and they suggested I pay a little more for some NOS Phillips 6146W tubes which were great, and I have had no issues at all. They credited me back the cost of the Taylor tubes. Give them a call to see if they still have them.

David

47344. Re: [TS-520_820_530_830] RE: K4EAA has Flatback relays in stock this morning.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-02 00:38:25 UTC
From: Jim W7RY
Topic: 47341 Message: 47344

Agreed! I tried Taylor 6146s in my 830. They did not work.

73
Jim W7RY

On 2/1/2014 1:12 PM, davidcuttler@... wrote:
>
> Michael,
>
> I tried the Taylor tubes from RF Parts in my 830S, and they were very
> poor. I called them, and they suggested I pay a little more for some
> NOS Phillips 6146W tubes which were great, and I have had no issues at
> all. They credited me back the cost of the Taylor tubes. Give them a
> call to see if they still have them.
>
>
> David
>
>

47345. Re: [TS-520_820_530_830] RE: K4EAA has Flatback relays in stock this morning.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-02 03:06:48 UTC
From: Ron
Topic: 47341 Message: 47345

I just recieved to sets of the 6146w from them and no issues !!

Ron KK4PWF

On Feb 1, 2014, at 6:38 PM, Jim W7RY <jimw7ry@...> wrote:

>
>
> Agreed! I tried Taylor 6146s in my 830. They did not work.
>
> 73
> Jim W7RY
>
> On 2/1/2014 1:12 PM, davidcuttler@... wrote:
>> Michael,
>>
>> I tried the Taylor tubes from RF Parts in my 830S, and they were very poor. I called them, and they suggested I pay a little more for some NOS Phillips 6146W tubes which were great, and I have had no issues at all. They credited me back the cost of the Taylor tubes. Give them a call to see if they still have them.
>>
>> David
>
>
>
>

47346. RL-1 for the 520SE, OMRON MHS4ZP

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-02 04:17:23 UTC
From: Wes Will
Topic: 47346 Message: 47346

Anyone know where THOSE can be found? And the cross-over number to the Panasonic or other brand, since the Omron type seem to also be unobtainium.

I figure I ought to snag a spare for myself as well. The NOS exact replacement I spotted on the web was a laughable $70; nah, I don't think so.

Who has this one? Where, how much should I be looking at paying? So far, knock on formica, there doesn't seem to be any problems with either of the relays in my 520SE, but I'm starting to think I should plan for the future.

--
Wes Will
N9KDY

47347. Re: [TS-520_820_530_830] RE: K4EAA has Flatback relays in stock this morning.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-02 03:17:45 UTC
From: Jim W7RY
Topic: 47341 Message: 47347

They don't list a 6146W in Taylor brand. And their other brands of 6146W tubes all say not for Kenwood.

73
Jim W7RY

On 2/1/2014 7:06 PM, Ron wrote:
> I just recieved to sets of the 6146w from them and no issues !!
>
> Ron KK4PWF
>
> On Feb 1, 2014, at 6:38 PM, Jim W7RY <jimw7ry@...
> <mailto:jimw7ry@...>> wrote:
>
>> Agreed! I tried Taylor 6146s in my 830. They did not work.
>>
>> 73
>> Jim W7RY
>>
>> On 2/1/2014 1:12 PM, davidcuttler@... wrote:
>>> ??????
>>>
>>> Michael,
>>>
>>> I tried the Taylor tubes from RF Parts in my 830S, and they were
>>> very poor. I called them, and they suggested I pay a little more for
>>> some NOS Phillips 6146W tubes which were great, and I have had no
>>> issues at all. They credited me back the cost of the Taylor tubes.
>>> Give them a call to see if they still have them.
>>>
>>>
>>> David
>>>
>>
>

47348. Re: [TS-520_820_530_830] RE: K4EAA has Flatback relays in stock this morning.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-02 03:19:41 UTC
From: clifford wright
Topic: 47341 Message: 47348

I must confess that I am very puzzled as to why the 6146W's were so different. Has anyone done some measurements on them at all? Or is it a more subtle thing like inter-electrode capacity changing the neutralisation settings?
Oddly enough the only TX tubes I have ever had problems with were from Philips!!!
So unless the Taylor tubes were actually faulty or "soft" it is a mystery.
I use some selected 6146B's in my TS820S and they go fine.
ZL1BDA

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

47349. Re: [TS-520_820_530_830] RL-1 for the 520SE, OMRON MHS4ZP

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-02 05:02:59 UTC
From: Joseph Stiles
Topic: 47346 Message: 47349

Wes,

Try Ken's Electronics in Kalamazoo, MI 269-345-4609

www.kenselectronics.com

I think his stock number for the relays is 401013-S

Also, I the the "hybridrestore.com" guy has some too

73 Joe
WB7UQU

On Saturday, February 1, 2014 8:22 PM, Wes Will <wwill@...> wrote:

>Anyone know where THOSE can be found? And the cross-over number to the
>Panasonic or other brand, since the Omron type seem to also be unobtainium.
>
>I figure I ought to snag a spare for myself as well. The NOS exact
>replacement I spotted on the web was a laughable $70; nah, I don't
>think so.
>
>Who has this one? Where, how much should I be looking at paying? So
>far, knock on formica, there doesn't seem to be any problems with either
>of the relays in my 520SE, but I'm starting to think I should plan for
>the future.
>
>--
>Wes Will
>N9KDY
>
>
>
>
>

47350. Re: [TS-520_820_530_830] RE: K4EAA has Flatback relays in stock this morning.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-02 08:28:20 UTC
From: Ron
Topic: 47341 Message: 47350

Their sku # is 6146w-ECG

Ron KK4PWF

On Feb 1, 2014, at 9:19 PM, clifford wright <c.c.wright@...> wrote:

> I must confess that I am very puzzled as to why the 6146W's were so
> different. Has anyone done some measurements on them at all? Or is it a
> more subtle thing like inter-electrode capacity changing the
> neutralisation settings?
> Oddly enough the only TX tubes I have ever had problems with were from
> Philips!!!
> So unless the Taylor tubes were actually faulty or "soft" it is a mystery.
> I use some selected 6146B's in my TS820S and they go fine.
> ZL1BDA
>
> ---
> This email is free from viruses and malware because avast! Antivirus protection is
active.
> http://www.avast.com
>
>
>
> ------------------------------------
>
> Yahoo Groups Links
>
>
>

47351. Re: [TS-520_820_530_830] RL-1 for the 520SE, OMRON MHS4ZP

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-02 12:33:11 UTC
From: <wagstw46@...>
Topic: 47346 Message: 47351

I had been buying and using these relays from Ken for some time thru mail order. I bought 4 more of them when I attended Kalamazoo hamfest last year and I have installed them in 520 and 820 and they work fine. I cant say about longevity, but appear to be same as the original Ant TR and Aux relays. Ken does not have a data sheet. I hope he still has them as he was running low on stock.

I took samples of all the other KW hybrid relays and Ken could not match any of them. He bought out the inventories of major CB manufacturers after the heyday. His cramped store (in an old house) is fun to visit and amazingly he knows where everything is at. You might also try him if you need any transistors or mosfets.

Terry K9TW

47352. Re: [TS-520_820_530_830] RE: K4EAA has Flatback relays in stock this morning.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-02 12:43:37 UTC
From: <wagstw46@...>
Topic: 47341 Message: 47352

6146w is a military or ruggedized version for mobile (high mechanical shock and vibration) service.

I have used JAN 6146Ws for a long time. Most have been ECG/Sylvania. Bought them from RF Parts last several times and they came in a white JAN box and work just fine. Running them now in one of my TS830 rigs. Never had one arc over. They hi-pot to around 2500vdc. They have same inter-electrode capacitance as a 6146B and neutralize just fine.

Some folks dont like them because the plate dissipation has been de-rated to 25 watts so they believe cant load to 100 watts out, but in my experience will easily load to 100watts output and run ICAS service all day long.

I prefer RCA 6146B when I can get them, but the JAN 6146W is a fine tube for your KW hybrid. I would not hesitate to buy them from RF Parts.

Terry K9TW

47353. Re: Re: [TS-520_820_530_830] VFO capacitor

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-02 05:26:31 UTC
From: Byron Tatum
Topic: 45334 Message: 47353

Terry-

I am going through a very nice TS-520SE that has a very raspy CW note. The receiver sounds great, there is no hint of raspyness or AC hum. I listened to this TS-520SE using two different receivers to verify the raspy note, it is raspy sounding even with the S/G switch off and listening to the driver stage. Any ideas where to start? I have already replaced the 2 of 2200 uFD at 16 VDC caps in the LV supply. Thought I may ask before going to much further with it.

Thanks, Byron

Say - I got that other TS-520S ALC problem fixed, it was Q-10 ALC transistor on RF board.

47354. Re: [TS-520_820_530_830] RE: Looking For TS-520S Front Panel

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-02 05:28:24 UTC
From: Byron Tatum
Topic: 47322 Message: 47354

OK Bob-
   Let me know if in fact you do have a nice one, I need one that is very nice with no marks or wear.
   Thanks, Byron

From: "ke5ftf@..." <ke5ftf@...>
To: TS-520_820_530_830@yahoogroups.com
Sent: Saturday, February 1, 2014 11:07 AM
Subject: [TS-520_820_530_830] RE: Looking For TS-520S Front Panel

Hi Bryon,
I should have a nice Front Face for the 520S...
Sell them for $35.00 plus my cost of mailing...
Bob
KE5FTF

47355. Re: [TS-520_820_530_830] RE: Looking For TS-520S Front Panel

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-02 16:03:31 UTC
From: <ke5ftf@...>
Topic: 47322 Message: 47355

Go ahead & reply to one of my QTH.com adds, do a search on ke5ftf...
I'll find a nice front face & email a picture...
Bob

47356. Re: Re: [TS-520_820_530_830] VFO capacitor

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-02 17:19:49 UTC
From: <wagstw46@...>
Topic: 45334 Message: 47356

Well the Carrier Osc, VFO, and Het Osc are all three used in Rx and Tx mode as the LO for various mixers so if receive audio is good then I would think these signals are clean.

Replacing the caps should mean you have clean 14vdc to the AVR series pass regulator which means your 9vdc should be clean.

Question: What does SSB TX audio sound like?

About only thing different is the TX Mixer is involved now. Although it uses same Het Osc for LO.

I was thinking about problem with the Balanced Mod (is a mixer) as you inject Carrier Osc there to produce DSBSC output and if have leaky diode can be a problem but should also manifest itself in Tx SSB signal.

Easiest thing is to look at output of these Oscillators and Mixers with O-scope and having two TS520S rigs can make comparisons of what good signal looks like vs bad signal.

I would probably look at output of Balanced Modulator. You can do that by getting on the Gen Term post at Gen board and IF board.

You could also look at TIF signal at output of IF board and at TP-2 on the RF board. It wont be nice clean sine wave as Het Osc leaks back.unless you have pretty good O-scope with filters that you can switch in. Of course as I mentioned you can compare the signals with the good TS520s.

I would tell you to replace the Bal Modulator diodes but I would be guessing. Probably easiest place to look with your O-scope would be at TP-2 on RF board for starters. Dont like to start replacing components unless troubleshooting indicates that is the source.

Terry K9TW

47357. Re: Re: [TS-520_820_530_830] VFO capacitor

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-02 19:00:21 UTC
From: <wagstw46@...>
Topic: 45334 Message: 47357

Byron

I forgot to ask if you have a frequency counter? If so might couple a loop with few turns of wire around the driver tube and feed it to Freq counter and see if the RF drive signal is FM-ing. Can do this with SG switch off. Again this should effect SSB transmit as well.

Common cause is VFO power supply ripple. Also, might have 12BY7A heater to cathode leakage, but I would think should get bad audio reports in SSB mode as well.

There is a Heater bypass capacitor and choke, but never seen them bad. C35 on the RF board. That is about all I can think of and have to tell you have never had any hybrid with raspy Tx CW note.

Try another 12BY7A.

Terry K9TW

47358. ++ Wow - nowaday brand new TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-02 17:57:12 UTC
From: <ppocciotti@...>
Topic: 47358 Message: 47358

Hello,

Here PY2HH - Pedro.

Yes a brand new TS-830S nowadays.

Rare and fantastic piece.

See it on:

http://ts830s.blogspot.com.br

I'm sure this TS-830S never make a QSO...

Congrats to Marcio Pocciotti his proud owner.

Greetings from Brazil.

73's Pedro - PY2HH

47359. Re: [TS-520_820_530_830] RE: K4EAA has Flatback relays in stock this morning.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-02 05:48:15 UTC
From: Michael Sylvester
Topic: 47341 Message: 47359

Thanks for looking around Gentlemen. I really do appreciate that.

My "Goldie" Quit just before another check in on the Breakfast Club yesterday. Was working perfectly. I was using an odd ball set of tubes, one Philips and a Khainese. Cursory check of cathode R's shows high,

So something is causing them to blow.

Has anyone had any luck with the new Khainese tubes?
I think last time that subject came up the general consensus was they had insuficient history to determine if they were consistent or to accurately judge their quality or lack thereof.
I did buy a set for my first radio when I first got my ticket oh so long ago,
in September.
I think I recall they ran 'hot', at about 110 watts.
Don't clearly recall the brief history of their performance
but I'm down to one.

I'm going to find my 'issue' with Goldie and try an old set of Mitsushi's in her.
They tested weak, under 80% but should tide me over.

Thanks again guys. Grab some relays!!

"How can I know who I am until I know who I was?"
Michael///KD0WSJ

this msg/post edited as it contained material already posted - WB7UQU

47360. Re: SV: [TS-520_820_530_830] RE: TS830S RL1 relay

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-02 15:33:12 UTC
From: <sylvstrmchl@...>
Topic: 46576 Message: 47360

Man am I sick of swapping cathode resistors.
I still get a brain fart and mix words, cathode and grid when on that subject.
Idiot savants are like that, especially me, just leave off the savant part.

Found some NOS Motorola 6146B's cheap. Anyone have any experience with those? Need to stock up.

What are most likely causes of frying Cathode resistors other than funked up tubes? Already changed out the HV caps and relay with new.
spent a buncha time going through my old tubes pile and got a decent set to run "Goldie" with, good signal reports from around the country before 75 meters went south Trying some CW this morning on 40.
Busy with other things though, eBay and such.
Think Goldie is about finished for now. Wow, what an impressive radio. She's got more doo-dadds to change sounds of incoming audio than I could've made up on a drinking binge.....
Love her already. Even more than the refurb TS-530S I sold 2 weeks ago. I was getting real fond of that one.....
At first I didn't care for the itsy bitsy knobs....I'd been using TS-820's for the last 3 months since getting my ticket in September.
I've got giant hands and the larger controls and bigger face are more suited to my inherent clumsiness.

Terry, thanks again for all your time devoted here. A couple of real early morning posts today are very informative.
The circuit for diode protection of Cathode resistors will go into Goldie before I put her clothes back on, thanks for the detailed explanation of that .I found this digging through archive files.
You all have a great day!!

Michael///KD0WSJ

47361. Kenwood Hybrid Net Update (February 2, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-02 20:41:49 UTC
From: Mark Gilger
Topic: 47361 Message: 47361

Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

The net recently celebrated it□s 2nd year in existence on November 1st, 2013. The yearly check-in totals are posted at the bottom of this message. It showed we had a 10% increase in our Saturday check-ins and an 8% on Sunday as compared to the 2012 check-ins.

The Saturday 40 meter net had 19 stations checking in under good band conditions. There were 2 new stations checking in, KK4RXN, and KC9AZ. We had the following number of radios checking in.

4 running TS-520(x)
2 running TS-530(x)
3 running TS-820(x)
3 running TS-830S

I was running my TS-940s with an L4B amplifier.

The Sunday 20 meter net we had 12 check-in under good band conditions. There were no new stations checking in today. We had the following number of radios.

3 running TS-520(x)
2 running TS-530(x)
1 running TS-820(x)
3 running TS-830S

I was running my TS-820/R-820 twins with an L4B amplifier.

We have been having several people checking in regularly with their TS-430, TS-440, and TS-940□s, which of course is not a hybrid, although over 30+ years old. Everyone is welcome as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a net control station, please send me an email. Currently it's just myself, WB2KNR and WB0SGA. I would like to get several more. If we do, we can

alternate so everyone might be on a 3-4 week
rotation. It's a lot of fun and a good way to
make sure you station is optimized.

For anyone that has not heard, we have a new web
site that WB4HFN is hosting. He currently has a
very nice site for Drake, Collins and Heathkit
and now Kenwood Hybrids. Good quality manuals
plus sale flyers and brochures will be found
here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 ☐ Oct. 2012 Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins

November 2013, Saturday☐s net total = 94, Sunday☐s total = 85
December 2013, Saturday☐s net total = 87, Sunday☐s total = 103
January 2014, Saturday☐s net total = 71, Sunday☐s total = 82
February 2014, Saturday☐s net total = 19, Sunday☐s total = 12 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

47362. Re: SV: [TS-520_820_530_830] RE: TS830S RL1 relay

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-02 20:44:30 UTC
From: Mark Gilger
Topic: 46576 Message: 47362

Michael,

Did you try Terry's update yet? It will stop you from frying those parts.

http://wb4hfn.com/KENWOOD/Articles/Technical_EX-004.pdf

Mark, WB0IQK

At 10:33 AM 2/2/2014, sylvstrmchl@... wrote:
>
>
>Man am I sick of swapping cathode resistors.
>I still get a brain fart and mix words, cathode and grid when on that subject.
>Idiot savants are like that, especially me, just leave off the savant part.
>
>Found some NOS Motorola 6146B's cheap. Anyone
>have any experience with those? Need to stock up.
>
>What are most likely causes of frying Cathode
>resistors other than funked up tubes? Already
>changed out the HV caps and relay with new.
>spent a buncha time going through my old tubes
>pile and got a decent set to run "Goldie" with,
>good signal reports from around the country
>before 75 meters went south Trying some CW this morning on 40.
>Busy with other things though, eBay and such.
>Think Goldie is about finished for now. Wow,
>what an impressive radio. She's got more
>doo-dadds to change sounds of incoming audio
>than I could've made up on a drinking binge.....
>Love her already. Even more than the refurb
>TS-530S I sold 2 weeks ago. I was getting real fond of that one.....
>At first I didn't care for the itsy bitsy
>knobs....I'd been using TS-820's for the last 3
>months since getting my ticket in September.
>I've got giant hands and the larger controls and
>bigger face are more suitedÂ to my inherent clumsiness.
>
>Terry, thanks again for all your time devoted
>here. A couple of real early morning posts today are very informative.
>The circuit for diode protection of Cathode
>resistors will go into Goldie before I put her
>clothes back on, thanks for the detailed
>explanation of that .I found this digging through archive files.
>You all have a great day!!
>

>Michael///KD0WSJ
>
>
>

47363. Re: [TS-520_820_530_830] TS830S No Output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-02 20:55:51 UTC
From: Mike W5RKL
Topic: 47087 Message: 47363

Keith,

If there is +242VDC on the Rectifier Unit's SG2 terminal then there is a 8 volt drop across the Rectifier Unit's RL1 relay terminals. This can be caused by corrosion or dirt. An 8 volt drop shouldn't result in a 50% voltage drop to the final tube screens.

Now, with the 830 turned OFF, the main power plug pulled from the wall socket, and the caps allowed to discharge to 0VDC, perform the following resistance measurements "exactly" as I have indicted below. In other words, make absolutely sure you have the meter leads connected to the Rectifier Unit terminals I have indicated and NOT to the chassis!!

Set the MODE switch to either USB, LSB, or CW position but NOT the TUNE position!!!

Set your DMM meter to measure "Resistance". Set the DMM's resistance setting to the lowest resistance, typically 200 ohms.

Now connect the Positive RED lead to the Rectifier Unit's SG2 terminal and the BLACK lead to the Rectifier Unit's SG1 terminal and note the resistance, it should be a very low resistance, almost zero. It's okay if the resistance is 1 or 2 ohms, that could easily be the meter lead resistance.

Next, leave the RED lead connected to the Rectifier Unit's SG2 terminal but move the BLACK lead to the Rectifier Unit's PD2 terminal and note the resistance, again, it should be a very resistance.

Let me know what both resistance measurements are.

Now, move the RED DMM lead to the Rectifier Unit's "PD2" terminal and move the BLACK lead to the Final Unit's "SG" terminal and note the resistance. It should be a very low resistance.

Let me know what the resistance is.

Next, move the RED lead to the Final Unit's "SG" terminal and the BLACK lead to each final tube socket pin 3, note the resistance of each socket's pin 3, they both should be approximately 100 ohms or within 10% of 100 ohms.

Let me know what both tube socket pin 3 resistance readings are.

73
Mike W5RKL

On 2/1/2014 12:38 PM, keith.hutt@... wrote:
>
> Mike
>
>
> I have just checked SG2 Voltage, Black lead to ground, Red Lead to SG2
> +242VDC.
>
>
> Keith G0TSH
>
>

47364. Another 6146W final tube source JAN

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-02 21:01:36 UTC
From: <james27613@...>
Topic: 47364 Message: 47364

hi

Surplus Sales has GE 6146W JAN military white boxed $22 each,
also the 12BY7A Driver $10 each.

I used these tubes in three different radios no trouble with them.

If you like the 6146B he has them too $47.50 each.

http://www.surplussales.com/Tubes-Sock-Acc/TubeSpecials.html

73 james ke4drn

47365. Re: [TS-520_820_530_830] ++ Wow - nowaday brand new TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-02 21:28:52 UTC
From: Geoff Hegarty
Topic: 47358 Message: 47365

A wonderful story Pedro. Congratulations on your ability to recognise a great prize.

Keep us informed how it goes.

Geoff
VK2HQA

On Monday, 3 February 2014 6:10 AM, "ppocciotti@..." <ppocciotti@...> wrote:

Hello,

Here PY2HH - Pedro.

Yes a brand new TS-830S nowadays.

Rare and fantastic piece.

See it on:

http://ts830s.blogspot.com.br

I'm sure this TS-830S never make a QSO...

Congrats to Marcio Pocciotti his proud owner.

Greetings from Brazil.

73's Pedro - PY2HH

47366. Re: [TS-520_820_530_830] Another 6146W final tube source JAN

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-02 22:04:43 UTC
From: Chris Maness
Topic: 47364 Message: 47366

From what I understand. These can be specified as a 6146A or B depending on what year they were manufactured. Any info there about the date?

Chris KQ6UP
On Feb 2, 2014 1:01 PM, <james27613@...> wrote:

>
>
> hi
>
> Surplus Sales has GE 6146W JAN military white boxed $22 each,
> also the 12BY7A Driver $10 each.
>
> I used these tubes in three different radios no trouble with them.
>
> If you like the 6146B he has them too $47.50 each.
>
> http://www.surplussales.com/Tubes-Sock-Acc/TubeSpecials.html
>
> 73 james ke4drn
>
>
>

47367. RE: TS830S Unstable on 10M - no output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-03 02:41:51 UTC
From: <dlacroix@...>
Topic: 46900 Message: 47367

Okay, I bit the bullet and pull the RF board out, disassembled the switch. I found 3 different contacts that were not being made even though the rivets all looked pretty clean. I soldered all the rivets and checked all were < 1 ohm across the switch. Put it all back together and tried it out.

Good news and bad news. 10M now has ALC, but I lost 160M. No freq display at all on that band.

Dave WB0SD

47368. Re: SV: [TS-520_820_530_830] RE: TS830S RL1 relay

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-03 04:09:11 UTC
From: W5RKL
Topic: 46576 Message: 47368

Michael,

Why do you think the final amplifier cathode resistors are failing?

1. Improper tuning of the final amplifier

2. Arc inside the 6146 between the plate and beam forming element

3. Aging carbon cathode resistors

4. None of the above

73
Mike W5RKL

On 2/2/2014 9:33 AM, sylvstrmchl@... wrote:
> Man am I sick of swapping cathode resistors.
> I still get a brain fart and mix words, cathode and grid when on that
> subject.
> Idiot savants are like that, especially me, just leave off the savant
> part.
>
> Found some NOS Motorola 6146B's cheap. Anyone have any experience with
> those? Need to stock up.
>
> What are most likely causes of frying Cathode resistors other than
> funked up tubes? Already changed out the HV caps and relay with new.
> spent a buncha time going through my old tubes pile and got a decent
> set to run "Goldie" with, good signal reports from around the country
> before 75 meters went south Trying some CW this morning on 40.
> Busy with other things though, eBay and such.
> Think Goldie is about finished for now. Wow, what an impressive radio.
> She's got more doo-dadds to change sounds of incoming audio than I
> could've made up on a drinking binge.....
> Love her already. Even more than the refurb TS-530S I sold 2 weeks
> ago. I was getting real fond of that one.....
> At first I didn't care for the itsy bitsy knobs....I'd been using
> TS-820's for the last 3 months since getting my ticket in September.
> I've got giant hands and the larger controls and bigger face are more
> suited to my inherent clumsiness.
>
> Terry, thanks again for all your time devoted here. A couple of real
> early morning posts today are very informative.
> The circuit for diode protection of Cathode resistors will go into
> Goldie before I put her clothes back on, thanks for the detailed
> explanation of that .I found this digging through archive files.
> You all have a great day!!

>
> Michael///KD0WSJ
>
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

47369. RE: Reply from Int'l Crystal Mfg. in re HET-OSC board 10M replacement crystals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-03 12:12:15 UTC
From: <wallydoc@...>
Topic: 47233 Message: 47369

Wes
Did you try Quartslab?
They are in England and I believe they are less expensive.
I ordered eight custom xtals for less than $200.
e mail:
sales2@quartslab.com
they will give you a price.
They appear to know what the xtal characteristics should be.
I assume you have also tried kenselectronics.com in Grand Rapids Mich for NOS xtals.
Wally
KC9INK

47370. Re: [TS-520_820_530_830] Another 6146W final tube source JAN

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-03 10:28:57 UTC
From: clifford wright
Topic: 47364 Message: 47370

Well I understood from looking up the data that the 6146B was an
upgraded 6146A.
Mainly that the anode (plate) design was changed and the plate
disappation went up from 25 watts to 30.
Certainly 6146A's struggle in the TS 820S final at high powers!
ZL1BDA

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

47371. RE: TS830S Unstable on 10M - no output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-03 12:36:06 UTC
From: <wagstw46@...>
Topic: 46900 Message: 47371

When ever I do bandswitch repair I do all the contacts on all wafers and not just the ones where I can pivot the contact back and forth around the lose rivet head or where I read high resistance with an ohm meter. You can screen the contacts with an ohm meter and rotate the wiper back and forth to look for high resistance or intermittent and just solder those, but when I take time to pull the RF board I just solder all or apply jumper to all. I dont want any rework for the customer. .

Using an ohm meter to check the contacts is not the best method. If you apply 6vdc current limited to 1 amp and measure the millivolt IR drop across the contact you will find more bad contacts. Should be less than 100mv which is 100 milli-ohms.

Also have to make sure get all 12 pins on each deck soldered back to the board. It is easy to lift a foil on the two pins that have been folded over to secure the board for soldering so when you resolder make sure any pin that has lost some of its pad is oriented to where most of pad remains to resolder.

Give Dick Housden W0NTA an email asking for some tips on how he approaches bandswitch repair. He probably has best track record of anyone I know.

Terry K9TW

47372. Re: [TS-520_820_530_830] Another 6146W final tube source JAN

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-03 13:38:10 UTC
From: <wagstw46@...>
Topic: 47364 Message: 47372

Chris:

Some people believe that a pre-1964 6146W is a "premium" 6146A and a post-1964 6146W is a "premium" 6146B. I dont know where they get this stuff from. You wont find that in the data sheets.

I have never seen an A or B designator marking of any kind on any 6146W tube. A 6146W is commonly marked as a 7212.

I have used RCA and GE and most commonly Phillips/Sylvania brands. The JAN (joint army navy) Sylvania that I commonly use have 79 and 87 date codes on them. In fact I have never seen a 64 date code.

Frankly I see all types and combinations of 6146 tubes in the rigs that come across my bench even mixed brands and mixed designators and they all seem to work just fine and neutralize just fine. I dont run my personal hybrids that way, but I think much hype and worry about nothing.

My advice is read the manufacturers data sheet. As I mentioned the 6146W that I am familiar with is rated at 25 watts plate dissipation (some data sheets will show a minimum of 42 watts output).

With a common Ip meter and common bias pot we have no way of adjusting or determining how well the tubes are sharing the load. While certainly dont need matched pairs I think best to stick with 6146B or 6146W and I tend to do that with same manufacturer so you know same build parameters.

Terry K9TW

47373. Re: [TS-520_820_530_830] Another 6146W final tube source JAN

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-03 13:44:56 UTC
From: Chris Maness
Topic: 47364 Message: 47373

The reason I ask is because I could use some fresh back ups for my Heathkit Apache. I have been having a blast with that rig on AM.

Chris KQ6UP
On Feb 3, 2014 5:38 AM, <wagstw46@...> wrote:

>
>
> Chris:
>
>
> Some people believe that a pre-1964 6146W is a "premium" 6146A and a
> post-1964 6146W is a "premium" 6146B. I dont know where they get this stuff
> from. You wont find that in the data sheets.
>
>
> I have never seen an A or B designator marking of any kind on any 6146W
> tube. A 6146W is commonly marked as a 7212.
>
>
> I have used RCA and GE and most commonly Phi! llips/Sylvania brands. The
> JAN (joint army navy) Sylvania that I commonly use have 79 and 87 date
> codes on them. In fact I have never seen a 64 date code.
>
>
> Frankly I see all types and combinations of 6146 tubes in the rigs that
> come across my bench even mixed brands and mixed designators and they all
> seem to work just fine and neutralize just fine. I dont run my personal
> hybrids that way, but I think much hype and worry about nothing.
>
>
> My advice is read the manufacturers data sheet. As I mentioned the 6146W
> that I am familiar with is rated at 25 watts plate dissipation (some data
> sheets will show a minimum of 42 watts output).
>
>
> With a common Ip meter and common bias pot we have no way of adjusting or
> determining how well the tubes are sharing the load. While certainly dont
> need matched pairs I think best to stick with 6146B or 6146W and I tend to
> do that with same manufacturer so you know same build parameters.
>
>
> Terry K9TW
>
>

>
>
>
>
>

47374. Re: [TS-520_820_530_830] Another 6146W final tube source JAN

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-03 14:17:38 UTC
From: <wallydoc@...>
Topic: 47364 Message: 47374

From the 6146 family of tubes:
Also, I know of no "master list" telling on what date
a particular manufacturer changed from the 6146 to the 6146A to the 61468. The
only "sure" way to know if a particular 6146W is of either the 6146 or 6146A type
is to look for a "code date" of before 1964 since RCA introduced the 61468 in the
middle of that year. However, some manufacturers did not start manufacturing
61468 equivalent 6146W tubes for at least a year after RCA introduced the
61468.
This article is in the files.
Hope this helps.
Wally KC9INK

47375. Re: [TS-520_820_530_830] RE: Reply from Int'l Crystal Mfg. in re HET-OSC board 10M replacement crystals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-03 14:28:27 UTC
From: Wes Will
Topic: 47233 Message: 47375

On 02/03/2014 06:12 AM, wallydoc@... wrote:
> Wes
>
> Did you try Quartslab?

No, I didn't, the people at ICM were the only ones recommended when the question was first posed, really.

> I ordered eight custom xtals for less than $200.

That's about exactly the price I got the two for, comes to just about $25 each, shipped. Had I ordered eight instead of two, the shipping would have been the same and they would have cost a few pence less than $25 each, but not enough to bother figuring or fussing with.

> They appear to know what the xtal characteristics should be.

As did ICM, but they were worried that the rest of the circuit had slipped far enough out of stock specification to make the crystals require a little different internal capacitance measurement. They were willing to adjust that specification for free during the manufacturing process. Since they must choose what it comes out as when they cut, grind, and lap the chunk of rock anyway, picking a modified value at the outset wouldn't be any problem at all.

> I assume you have also tried kenselectronics.com in Grand Rapids Mich
> for NOS xtals.
> Wally
> KC9INK

Actually, no I didn't, truth be told. I skipped the NOS option, because that was mentioned to be a complete HET-OSC board and a full swap, and I want to keep this one. Nothing wrong with swapping boards, I did that with the rectifier board already.

But I want to get a good look at this one, see what they did to it when the idiots swapped the crystals to the CB spec., and the skill or lack of it used there will either ease my mind a bit if it was done competently, or warn me to keep looking for more evidence of ham-handedness (rather than ham-radion-ess, I suppose....).

Besides, the cost was about the same for either option. Perhaps a little less for the new crystals. And I got to make a new business acquaintance at ICM, by the way Sara says to say Howdy to you guys who have been customers. Nice person. Knows her business.

Thanks for the reply, Wally. See you on the radio, perhaps.

--
Wes Will
N9KDY

47376. Re: [TS-520_820_530_830] Another 6146W final tube source JAN

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-03 14:59:19 UTC
From: <wagstw46@...>
Topic: 47364 Message: 47376

I ran an Apache and SB10 ssb adapter in the middle 70s, but dont remember the neutralizing circuit. I dont recall if it has an air variable cap or uses the gimmick capacitor wire protruding near the finals?

Mike W5RKL would likely know. A lot of folks report neutralizing problems with Heath rigs using different 6146 finals. I cant comment on that. I ran HW-101 and SB-102 but cant remember what variety I used. Whatever they were I had no problems.

I just have never experienced any problems with any of the KW hybrids not liking any particular 6146 final. I would not use the Taylor or Penta chinese made 6146 tubes as I think they are building them for Yaesu and Heath transceivers and dont realize that the Kenwoods run about 100vdc to 150vdc higher anode voltage.

I just like to use 6146B RCAs when I can primarily for the higher plate dissipation.

Glen Zook seems to be the one who believes firmly in differences in the tubes and inability to use in some rigs and neutralize in some rigs. Tom Rauch W8JI counters that to say he runs any and all in his various 6146 boat anchor rigs. I dont get involved in that debate, but have to say my experience more aligns with Toms as far as KW Hybrids go. I just had a TS520S here with a 6146A and a S2001A on the bench and it loaded and neutralized just fine. I offered to install NOS 6146Ws and customer declined.

Might want to post on the Yahoo Heathkit forum to see what the Apache and DX-100 owners are running.

One thing we tend to overlook is that in the 70s and 80s we were buying new rigs or kits with new manufactured 6146 tubes installed or if we did on the rare occasion buy a 6146 tube it was a new tube. Today we are buying pulls, NOS, and supposed NOS tubes that are 30 to 40 years old and then wonder why we have problems (ie arc over events).

Terry K9TW

47377. Re: [TS-520_820_530_830] Another 6146W final tube source JAN

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-03 15:20:28 UTC
From: Chris Maness
Topic: 47364 Message: 47377

I think I have read forward compatibility is not the issue. The problem arises when we use 6146B's in some old radios. They go parasitic. I have a friend that is running 6146B's in his Apache. He has no problems, but I have heard bad stories in other older rigs. 6146W's should not be a problem in hybrid rigs -- either way.

Indeed the Benton Harbor Apache uses a gimmick wire that you move between the two tubes to neutralize lead inductance and self resonance.

That rig is a BEAST, but I won't digress anymore about my fun radio :D

Regards,
Chris KQ6UP

On Mon, Feb 3, 2014 at 6:59 AM, <wagstw46@...> wrote:

>
>
> I ran an Apache and SB10 ssb adapter in the middle 70s, but dont remember
> the neutralizing circuit. I dont recall if it has an air variable cap or
> uses the gimmick capacitor wire protruding near the finals?
>
>
> Mike W5RKL would likely know. A lot of folks report neutralizing problems
> with Heath rigs using different 6146 finals. I cant comment on that. I ran
> HW-101 and SB-102 but cant remember what variety I used. Whatever they were
> I had no problems.
>
>
> I just have never experienced any problems with any of the KW hybrids not
> ! liking any particular 6146 final. I would not use the Taylor or Penta
> chinese made 6146 tubes as I think they are building them for Yaesu and
> Heath transceivers and dont realize that the Kenwoods run about 100vdc to
> 150vdc higher anode voltage.
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> I just like to use 6146B RCAs when I can primarily for the higher plate
> dissipation.
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> Glen Zook seems to be the one who believes firmly in ! differences in the
> tubes and inability to use in some rigs and neutralize in some rigs. Tom
> Rauch W8JI counters that to say he runs any and all in his various 6146
> boat anchor rigs. I dont get involved in that debate, but have to say my
> experience more aligns with Toms as far as KW Hybrids go. I just had a
> TS520S here with a 6146A and a S2001A on the bench and it loaded and

> neutralized just fine. I offered to install NOS 6146Ws and customer
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>
> Terry K9TW
>
>
>
>

47378. Re: [TS-520_820_530_830] Another 6146W final tube source JAN

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-03 16:09:31 UTC
From: W5RKL
Topic: 47364 Message: 47378

The Heath Apache TX1 transmitter as well as the Heath Marauder HX-10 transmitter, I have both, run 6146As.

The final neutralizing capacitor in the Apache TX-1 is a vertical wire running up the side of and between both final tubes. The wire is moved closer to or farther away from the final tubes when neutralizing the final amplifier. Not an easy methode of neutralizing the final but it works.

The Marauder HX-10 uses a variable cap to neutralize the final amplifier.

Heathkit performed tests with different types of 6146 tubes, As verses Bs in the HW-101 and found, early on, that 6146Bs didn't appear to neutralize very well in the HW-101. However, in May 15, 1979, Heathkit's HW-101 service bulletin, "HW-101-49" stated the 6146As were no longer available from the manufacturer and Heath had tested "GE" brand 6146Bs and found they neutralize in the HW-101. Heath, once their stock of 6146A ran out, they provided GE brand 6146B with the HW-101 kits.

There are 2 differences between the 6146A and 6146Bs

1. Plate dissipation in the "A" is less than the plate dissipation in the "B"
2. The 6146A Grid #1 to Plate inter-electrode capacitance is .24pf while the 6146B Grid #1 to Plate inter-electrode capacitance is .22pf.

The ".02pfd" difference in inter-electrode capacitance between the "A" and "B" should not make a difference when operating in the 2 to 30Mhz HF spectrum. Moving up to VHF and above, the ".02pd" difference can have a significant affect on stability in an amplifier when using either the "A" or "B" versions.

I try to run 6146As in my Heath transmitters and transceiver, primarily because they are cheaper. I also don't push the daylights out of any final amplifier running any vacuum tube, whether it's a 6146A, 6JB6 sweep tube, etc., so the difference in plate dissipation in the 6146A/B is not an issue.

One should never mix a 6146A with a 6146B. One should use two "As" or two "Bs", never one "A" and one "B".

Also, I see where a lot of people seem to rely on a tube tester to determine if their 6146s are good or not. Remember, a tube tester cannot and will not test the 6146 in the same manner as the actual RF circuit the tube will be used in. The best tester you should use to test 6146s is the actual circuit the tube will be used in. A tube tester can test for physical element shorts, open filaments, and "basic" conduction but

that's about it. I had one of the two 6146Bs in my HW-101 that arced. I tested both tubes in my Eico tube tester and both tested GOOD. The tube tester did not test for gas which is what caused the arc so the test was "misleading". The indication, other than the arc, that told me the tube was bad was the bad 6146 became warmer around the base of the glass envelope much faster than the good 6146. I replaced both 6146s with NOS 6146As from vacuumtubes.net, problem solved. No, the arc did not take out the "6" 10 ohm cathode resistors. The total cathode resistance is "1.6 ohms". With 250ma indicated on the PLATE meter, the cathode voltage is .415 volt (415mv). Never had problems with cathode resistors failing in any Heathkit 6146 final amplifier, even when that 6146B arced in the HW-101. The old carbon resistors would increase in value causing invalid PLATE meter indications but no blown/burnt/exploded cathode resistors.

73
Mike W5RKL

On 2/3/2014 8:59 AM, wagstw46@... wrote:
>
> I ran an Apache and SB10 ssb adapter in the middle 70s, but dont
> remember the neutralizing circuit. I dont recall if it has an air
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> 40 years old and then wonder why we have problems (ie arc over events).
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> Terry K9TW
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

47379. Re: [TS-520_820_530_830] Another 6146W final tube source JAN

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-03 16:10:28 UTC
From: <wagstw46@...>
Topic: 47364 Message: 47379

Yes we probably should move on. I have never seen a KW hybrid 6146 final with a "parasite". Seen a few with thermal runaway, but no VHF parasites. I sometimes wonder about wrong cause and effect? More than one way for the plates to glow cherry red. No sense in getting into what could turn in to a passionate debate. Just keep those anode suppressors and screen grid stopper resistors in good shape.

Enjoy that Apache. I remember the day I could finally take the 2x4 stiff leg out from under hollow core door I was using as the bench top! Man real diecast knobs and modulator and plate transformers you could barely lift. The word quality comes to mind. I had some VFO drift that the Heath engineers helped me with by providing a pack of NPO caps for free. Otherwise it was flawless. They were a great company. Reluctantly replaced it with my 1st new transceiver a HW-101 as KW hybrids were not in the budget. HW-101 was fun and glad I didnt miss the experience.

ENOUGH!

Terry K9TW

47380. Re: [TS-520_820_530_830] Another 6146W final tube source JAN

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-03 16:21:40 UTC
From: Chris Maness
Topic: 47364 Message: 47380

One way to prevent flash overs is to use your backup tubes every now and again. Let that getter do its job of scrubbing and returning to a hard vacuum. Also, I have noticed that the mirrored Cs/Rb coating on the inside of the tube will get more transparent and eventually turn white when there is too much gas. However, at that point you might beyond the point of flashover.

What issues are they having with the Chinese tubes? If I had a beater rig, I might have a go. I have heard mixed results. I am thinking about home brewing an AM transmitter and there are brand new Chinese 813's. It seems it might be an issue of quality control. Some people have no problems while others have melt downs.

Regards,
Chris KQ6UP

On Mon, Feb 3, 2014 at 8:10 AM, <wagstw46@...> wrote:

>
>
> Yes we probably should move on. I have never seen a KW hybrid 6146 final
> with a "parasite". Seen a few with thermal runaway, but no VHF parasites. I
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> it with my 1st new transceiver a HW-101 as KW hybrids were not in the
> budget. HW-101 was fun and glad I didnt miss the experience.
>
>
> ENOUGH!
>
>
> Terry K9TW
>
>
>
>

47381. Re: ++ Wow - nowaday brand new TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-03 14:22:11 UTC
From: jim_kr9e
Topic: 47358 Message: 47381

I really enjoyed your TS-830 story Pedro. Great find and purchase!

I'm sure that you will enjoy the radio a lot.

I saved a couple of your photographs for my TS-830 images file - very good job taking the pictures Pedro.

73.....Jim KR9E, Odon, IN, USA

47382. RE: Another 6146W final tube source JAN

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-03 17:32:37 UTC
From: <james27613@...>
Topic: 47364 Message: 47382

Hi,

the tubes from Surplus Sales had a date code of 10/87.

73 james ke4drn

47383. Re: [TS-520_820_530_830] Re: ++ Wow - nowaday brand new TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-03 17:47:52 UTC
From: Chris Maness
Topic: 47358 Message: 47383

Did you power it up on a variac? Having caps with no voltage applied
for all these years is not a good thing. The story is really touching
about the XYL who bought it for her husband.

73 de KQ6UP

On Mon, Feb 3, 2014 at 6:22 AM, jim_kr9e <kr9e@...> wrote:
> I really enjoyed your TS-830 story Pedro. Great find and purchase!
>
> I'm sure that you will enjoy the radio a lot.
>
> I saved a couple of your photographs for my TS-830 images file - very good job taking the pictures Pedro.
>
> 73.....Jim KR9E, Odon, IN, USA
>
>
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> Yahoo Groups Links
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47384. Re: SV: [TS-520_820_530_830] RE: TS830S RL1 relay

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-03 02:20:44 UTC
From: Michael Sylvester
Topic: 46576 Message: 47384

I found an explanation, although brief, in the archives, in one of Terrys' long detailed replies to one of my questions months ago.
I "replied" to that early this morning.

Yes, I definately will be adding that upgrade, prolly to all radios opened up from now on.
I'll need to pick up a supply of the needed components though. Where? Recommendations?

Initially I thought only the diodes were required, as per Terrys' directions in archives.
Thank you for that link.
I'm wondering where to find the wealth of information on other information sights that many of you are aware of but I haven't a clue how to find.....
Anyone care to share? Or is there another list in the Homepage I haven't found?
Goldie did well today on 20 Mtrs. Worked some code with a gentleman in Texas. I think I have my flagship rig.

I'm still holding my breath for moderators to release one of my posts from many hours ago asking about Motorola 6146B tubes. I found a few but have no knowledge of their value.
I definately need to stock up.
Back after the ice storm that hit Arkansas and towards NE from there maybe 2 months ago, I talked to a man that was on batteries. No electricity. All power lines were down with 1" of ice. Cell phone towers were down. He was staying warm by tending his fire and entertaining himself with his SW rig, prolly keeping his hands warm too!
I have searched for his contact info 3 or 4 times. Can't find in my log or the stack of legal pad notes I take when on air.
He said he had a stack of Sylvania 6146 that he'd let go cheap.....
I need to keep better files!
I'm thinking of buying all the Motorola but sure would like someones' input on the past quality of these tubes.
Thanks everyone.

"Idleness is Corosions' Workshop"
Michael///KD0WSJ

this msg/post edited as it contained already posted material- WB7UQU

On Sunday, February 2, 2014 2:44 PM, Mark Gilger wrote:

Michael,

Did you try Terry's update yet? It will stop you from frying those parts.

http://wb4hfn.com/KENWOOD/Articles/Technical_EX-004.pdf

Mark, WB0IQK

47385. TS530 remote

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-03 16:53:37 UTC
From: <effirlem@...>
Topic: 47385 Message: 47385

I am in the process of building a linear(gathering parts stage) and I need to know just how to interface it with my 530. The manual does not give specifics about that. I down loaded the manual for the TL922 and it looks as though the 530 provides a path to ground for the relays in the TL922. I need to know what is the max. voltage that the 530 can stand and the max. current that it can sink.

47386. Re: [TS-520_820_530_830] Another 6146W final tube source JAN

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-03 05:52:01 UTC
From: Michael Sylvester
Topic: 47364 Message: 47386

Excellent source of tubes, thank you very much.
Also has sweep tubes in good quantities. 6JE6 or 6LQ6 or 6MJ6.
Might have to fire that old LA-1000 amp up again.

Michael///KD0WSJ

this msg/post edited as it contained already posted material - WB7UQU

47387. Re: SV: [TS-520_820_530_830] RE: TS830S RL1 relay

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-03 05:29:27 UTC
From: Michael Sylvester
Topic: 46576 Message: 47387

First failure I have no idea, they were bad when I bought the radio, (another "it works good!") just now getting around to working on it, they were newer metal film type. One HV cap had been changed, they didn't match, now new. Flatback relay has date of 1 year ago for change, antenna relay was swapped for a blue from Hybrid. Bandswitch coupling replaced, old one was busted AND glued, that was fun. Minor attention to Wafers, no spraying however, no brushes, in pretty good shape.

The second failure, yesterday, after my first replacement I believe was from funky tubes. The last time I'm sure of the cause, which I'm shy to admit to!!

I didn't like the routing of one of the final tube anode connections, it was a bit too close to the plate cap for my liking.
After moving it away from the cap, closing the HV cage, held with one screw for now (still testing her out), Power on and loud POP!!
Dangit.

Some dipstick had the anode resistor a bit too high, it arced to the HV cage cover.....

One good thing, I've gotten real smooth and neat with replacing the Cathode R's!!
Couple new things I do,
pull the wire wrap pins, removing the wraps, removing old solder from board pads. I find a higher wattage iron quick melt and a "smack on the table" to remove the old solder is less heat damaging than anything else. I have differing wicks but no solder suckers and definatley don't have the heated device you men were discussing last week. (I have ordered 3 different solder suckers, never cared for them 40 years ago, I hope they've improved!!).
After removing the posts, clamped in hemos unwrapping with big iron, cleaning the posts.
After gently reaming the de-soldered holes with pin vise holding that diamond burr, Posts are gently wedged back into place, just through the board, resoldered with silver solder, 1/4" of wires stripped to remove old damaged insulation in most cases, I form a 3/16" U shape.
This makes it much easier to remove next time.....
I was doing 1 1/2 wraps then soldering but tough to get off without too much heat, should one need to do again.....
When resoldering the fresh board I'm using heat sinks at bases of pins to prevent heat damage to foils.
I've found that clear nail polish works pretty well to rebond foils that have worked loose. lightly wet the area under pad, do my soldering with as little heat as possible, making sure pad is down, the heat will set the polish.
Another layer when done.

I think I'll pull the Very Good Penta tubes I have in the beater 820S I've had on air for a week and Put Goldies' clothes back on for now.
I just received the first of 2-TS-430S units to troubleshoot.
The first I think is mainly a mic problem, I've ordered a new mic for that already (it's a really old CB mic that's especially nasty, cord is antique as is mic). While waiting for

the new mic, next on bench might be:
I've got an itch to do one of my better 820S units with my VFO fix and an 18 hole solder fix. Finding the other 2 holes this time!!
Then I'll have a Very Good TS-820S online too.

Still holding my breath for any ones' opinion before I drop $$ on a bunch of NOS Motorola 6146B's.
Anyone have any history on those?

Hoping you all had as productive a weekend as I had.
I'm really lovin' the 830S, "Goldie".

A simple seal for the 830S relay:
One last improvement, when working on bottom of radio, the relay presents itself as right side up.....
flip radio over, "right side up", however, it is upside down, unsealed, with a crack around the plug it seats into...with unsealed case....right in front of the fan. It's own workings speaker, and the fan constant sources of vibrations. Small albeit, but enough that the dust brought to it by the constant air flow will work into the case.
Remedy.....
I applied a "Patch" of electrical tape over the plug the relay seats into. Extending 1/4" around outside edge of female plug, stuck to the underside of chassis.
The relay easily cuts through the tape. The receiving plug has been wetted with Corrosion X, using tiny artists' brush into the female holes.
The pins of new relay are stainless wire brushed and also wetted. The pins are canted or twisted just slightly to get a better "cutting contact". After plunging the new relay into and out of the plug a few times, working in circles while doing so, it is removed and excess wetness is removed from sealing surface and from relay face.
Relay installed, cover replaced.

This eliminates the constant source of dust from the continuous flow of air from above through the cracks.
There was long discussion of sealing/not sealing relays a couple or 3 weeks ago.
Simple solution to an old problem. Had the relays been mounted cover up there wouldn't be a dust catching situation. I feel this eliminates most of the source of dust fouling the relays in this type mount.

Yup, the I.S. shorted out the Anodes causing last Resistor failure.....Dash.

"Once it Starts, Communications WILL be VITAL"
Michael///KD0WSJ

this msg/post edited as it contained already posted material (again) - WB7UQU

This email is free from viruses and malware because avast! Antivirus http://www.avast.com/ protection is active.

47388. Re: [TS-520_820_530_830] RE: TS830S Unstable on 10M - no output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-03 19:13:58 UTC
From: Mark Gilger
Topic: 46900 Message: 47388

Dick wrote the following article on Bandswitch
rebuilding, which I've posted here?

http://wb4hfn.com/KENWOOD/Articles/020_Technical_Exchange.pdf

P.S. The Hakko 808 de-soldering tool works great.

Mark, WB0IQK

At 07:36 AM 2/3/2014, wagstw46@... wrote:
>
>
>
>When ever I do bandswitch repair I do all the
>contacts on all wafers and not just the ones
>where I can pivot the contact back and forth
>around the lose rivet head or where I read high
>resistance with an ohm meter. You can screen the
>contacts with an ohm meter and rotate the wiper
>back and forth to look for high resistance or
>intermittent and just solder those, but when I
>take time to pull the RF board I just solder all
>or apply jumper to all. I dont want any rework for the customer. .
>
>
>Using an ohm meter to check the contacts is not
>the best method. If you apply 6vdc current
>limited to 1 amp and measure the millivolt IR
>drop across the contact you will find more bad
>contacts. Should be less than 100mv which is 100 milli-ohms.
>
>
>Also have to make sure get all 12 pins on each
>deck soldered back to the board. It is easy to
>lift a foil on the two pins that have been
>folded over to secure the board for soldering so
>when you resolder make sure any pin that has
>lost some of its pad is oriented to where most of pad remains to resolder.
>
>
>Give Dick Housden W0NTA an email asking for some
>tips on how he approaches bandswitch repair. He
>probably has best track record of anyone I know.
>
>
>Terry K9TW

>

47389. Re: [TS-520_820_530_830] RE: TS830S Unstable on 10M - no output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-03 19:59:10 UTC
From: <wagstw46@...>
Topic: 46900 Message: 47389

Mark I already sent him there some time ago(See below)

It appeared to me he did not do the entire process. I could be wrong so suggesting here that he contact Dick for additional insights. For example what to do about lifted pads where pins are folded over, how to ensure vertically plumb on re-install, do you solder all or just those that you measure as "bad" etc.

Here is what I previously suggested:
Go to Ron WB4HFN website and look under the Kenwood Net Home Page and look under Articles and you will see Dick Housdens excellent procedure and close up pictures of the vertical band switch boards.

You can also go to Ken K4EAA site and see his pictures. Ken uses the silver pen method and Dick uses the solder method. I have done both and only do solder now.

Some folks apply the solder and a small jumper wire back at the contact hair pin turn window to keep the heat away from the contact for fear of losing spring temper. I have done it both ways and if you have very good clean bright metal at the rivet (I also apply a drop of liquid rosin flux) you can get in and out pretty quickly. It doesnt take very much solder to bond the rivet, contact material, and pc trace together electrically.

Terry K9TW

47390. Re: [TS-520_820_530_830] RE: TS830S Unstable on 10M - no output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-03 20:45:44 UTC
From: Mark Gilger
Topic: 46900 Message: 47390

Ok, I guess I should maybe get in the habit of
using the web site for comments, so I can view
previous emails. I always respond via email so
everyone can see the comments I'm responding to.

I'm intentionally trying to boycott the Yahoo
groups since they made the format change some
time ago. Not as user friendly as the old format
used to be. Maybe just getting senile.

Mark

At 02:59 PM 2/3/2014, you wrote:
>
>
>Mark I already sent him there some time ago(See below)
>
>
>It appeared to me he did not do the entire
>process. I could be wrong so suggesting here
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>pictures. Ken uses the silver pen method and
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>keep the heat away from the contact for fear of
>losing spring temper. I have done it both ways
>and if you have very good clean bright metal at
>the rivet (I also apply a drop of liquid rosin

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>doesnt take very much solder to bond the rivet,
>contact material, and pc trace together electrically.
>
>
>
>Terry K9TW
>
>
>
>
>

47391. Brand New TS-830S - A story

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-03 19:15:19 UTC
From: <mpocciotti@...>
Topic: 47391 Message: 47391

Hello Friends,

I'm new to this group.
But, there is a reason why I joined: I manage to get a brand new TS-830S.
Yes, brand new. It is quite a story.
Please, check it out at ts830s.blogspot.com

I wanted to share it with the group and also hear any advices you may have for me.

Thanks a lot and 73!

Marcio Pocciotti

Nice work. Please remember to sign your posts with your name(which you have done) and, your call sign(if any).- WB7UQU

47392. RE: ++ Wow - nowaday brand new TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-03 19:26:19 UTC
From: <big_argus@...>
Topic: 47358 Message: 47392

Beautiful! I'm a new HAM and was thrilled with a pretty clean TS-820S I recently bought until I saw this. You must be living right Pedro. Do you have all the matching pieces pictured at the top of your page? Congrats!

James
KG5AAQ

47393. Re: [TS-520_820_530_830] TS830S No Output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-03 20:59:48 UTC
From: <keith.hutt@...>
Topic: 47087 Message: 47393

Now connect the Positive RED lead to the Rectifier Unit's SG2 terminal and the BLACK lead to the Rectifier Unit's SG1 terminal and note the resistance, it should be a very low resistance, almost zero. It's okay if the resistance is 1 or 2 ohms, that could easily be the meter lead resistance. ----------0.2 ohms

Next, leave the RED lead connected to the Rectifier Unit's SG2 terminal but move the BLACK lead to the Rectifier Unit's PD2 terminal and note the resistance, again, it should be a very resistance. ----------1.8 ohms

Let me know what both resistance measurements are.

Now, move the RED DMM lead to the Rectifier Unit's "PD2" terminal and move the BLACK lead to the Final Unit's "SG" terminal and note the resistance. It should be a very low resistance.----------0.2 ohms

Let me know what the resistance is.

Next, move the RED lead to the Final Unit's "SG" terminal and the BLACK lead to each final tube socket pin 3, note the resistance of each socket's pin 3, they both should be approximately 100 ohms or within 10% of 100 ohms.---------103.1 &103.2 ohms

Let me know what both tube socket pin 3 resistance readings are.

73
Mike W5RKL

I have added the readings to the ends of your questions hope this makes sense, again many thanks

Keith G0TSH

47394. RE: TS530 remote

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-03 21:50:44 UTC
From: <effirlem@...>
Topic: 47385 Message: 47394

Oops, looks as if I cut that a little short. Had to take wife to the doctor and let the time slip up on me. Thought I had not posted this and when I came back to re-do I saw that I had. So let me add this to the last sentence.

I think that I have read the schematic correctly, if not could someone correct me. If I am correct could anyone help by providing the above info. It would be greatly appreciate it.

Mel...

47395. TS-830S Dead on 160M and 10M lower portion

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-03 22:00:12 UTC
From: <wa2gju@...>
Topic: 47395 Message: 47395

My TS-830S is dead on 160M, and the 10M only at 28.000 to 28.500. During receive on 10M can hear some signals (albeit weak) and no movement of S meter even though on my other receiver they are very strong. I suspect the band switch wafers but not sure where to start to troubleshoot which section and which contact. Can anyone help point me in the right direction. I recently cleaned the switch with spray contact cleaner which took care of intermittent contact on 80M.

Chuck
WA2GJU

47396. Re: [TS-520_820_530_830] TS830S No Output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-03 22:11:52 UTC
From: W5RKL
Topic: 47087 Message: 47396

Keith,

The resistance values you provided clearly indicate there is nothing wrong with the voltage path to the final tube screens, pin 3, starting from the Rectifier Unit's 210A output, through the MODE switch and ultimately to the Final Unit's tube's screens on pin 3 of each final tube socket.

Setting the MODE switch to USB, LSB, or CW, should result in the Rectifier Unit's 210A +245VDC be applied to pin 3 of both final tube sockets! There is nothing wrong with the voltage path where the Rectifier Unit's 210A "+245VDC" flows over to the final tube screens on pin 3 of the 6146 tube sockets!

73
Mike W5RKL

On 2/3/2014 2:59 PM, keith.hutt@... wrote:
>
> Now connect the Positive RED lead to the Rectifier Unit's SG2 terminal
> and the BLACK lead to the Rectifier Unit's SG1 terminal and note the
> resistance, it should be a very low resistance, almost zero. It's okay
> if the resistance is 1 or 2 ohms, that could easily be the meter lead
> resistance. ------------------0.2 ohms
>
> Next, leave the RED lead connected to the Rectifier Unit's SG2
> terminal but move the BLACK lead to the Rectifier Unit's PD2 terminal
> and note the resistance, again, it should be a very resistance.
> ---------------------------1.8 ohms
>
> Let me know what both resistance measurements are.
>
> Now, move the RED DMM lead to the Rectifier Unit's "PD2" terminal and
> move the BLACK lead to the Final Unit's "SG" terminal and note the
> resistance. It should be a very low
> resistance.---------------------0.2 ohms
>
> Let me know what the resistance is.
>
> Next, move the RED lead to the Final Unit's "SG" terminal and the
> BLACK lead to each final tube socket pin 3, note the resistance of
> each socket's pin 3, they both should be approximately 100 ohms or
> within 10% of 100 ohms.---------103.1 &103.2 ohms
>
> Let me know what both tube socket pin 3 resistance readings are.
>

> 73
> Mike W5RKL
>
>
> I have added the readings to the ends of your questions hope this
> makes sense, again many thanks
>
>
> Keith G0TSH
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

47397. Re: [TS-520_820_530_830] TS830S No Output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-03 22:19:15 UTC
From: W5RKL
Topic: 47087 Message: 47397

Keith,

I forgot to mention.

The "1.8 ohms" found between the Rectifier Unit's SG2 and PD2 terminals is the coil resistance of choke "L1" on the Rectifier Unit.

The two screen resistor values on the Final Unit, "103.1" and "103.2" ohms, are well within 10% tolerance of the 2 screen resistors so no need to replace them.

73
Mike W5RKL

On 2/3/2014 2:59 PM, keith.hutt@... wrote:
>
> Now connect the Positive RED lead to the Rectifier Unit's SG2 terminal
> and the BLACK lead to the Rectifier Unit's SG1 terminal and note the
> resistance, it should be a very low resistance, almost zero. It's okay
> if the resistance is 1 or 2 ohms, that could easily be the meter lead
> resistance. ------------------0.2 ohms
>
> Next, leave the RED lead connected to the Rectifier Unit's SG2
> terminal but move the BLACK lead to the Rectifier Unit's PD2 terminal
> and note the resistance, again, it should be a very resistance.
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> move the BLACK lead to the Final Unit's "SG" terminal and note the
> resistance. It should be a very low
> resistance.---------------------0.2 ohms
>
> Let me know what the resistance is.
>
> Next, move the RED lead to the Final Unit's "SG" terminal and the
> BLACK lead to each final tube socket pin 3, note the resistance of
> each socket's pin 3, they both should be approximately 100 ohms or
> within 10% of 100 ohms.---------103.1 &103.2 ohms
>
> Let me know what both tube socket pin 3 resistance readings are.
>
> 73
> Mike W5RKL
>

>
> I have added the readings to the ends of your questions hope this
> makes sense, again many thanks
>
>
> Keith G0TSH
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

47398. Re: [TS-520_820_530_830] RE: TS830S Unstable on 10M - no output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-03 23:52:35 UTC
From: <wagstw46@...>
Topic: 46900 Message: 47398

No problem. I am very appreciative of Dicks work and try to direct people to his nice write up when I can. There are some nuances that he hasnt covered like how to successfully unsolder the two pins that are folded over and if he does all rivets or just those he deems have high resistance etc. Maybe he can cover that in the next rev. I am glad he covered the molex connector, driver tube and VC-1 thru VC-3 solder connection inspections and L36 problem.

I am doing a TS830 bandswitch rebuild now and just about finished and hope it will resolve the problem on couple of bands. I am still trying to decide of Tarnx is better than the glass top stove cleaner or not. I am using Wierman brand and I am not so sure that the Tarnx isnt just as good. I do like using the Everclear for cleaning as opposed to the Denatured alcohol I was previously using. Just have to be careful not to take too many hits off the bottle!

Yes I hate new format as well. The old wasnt broken. The customer is never asked or involved when the designer makes something new and improved.

73s

Terry

47399. Re: [TS-520_820_530_830] Brand New TS-830S - A story

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-04 00:05:27 UTC
From: Chris Maness
Topic: 47391 Message: 47399

They have already started a thread in regards to your blog post. Have a
read. Quite a fascinating story.

Chris KQ6UP
On Feb 3, 2014 1:55 PM, <mpocciotti@...> wrote:

>
>
> Hello Friends,
>
> I'm new to this group.
> But, there is a reason why I joined: I manage to get a brand new TS-830S.
> Yes, brand new. It is quite a story.
> Please, check it out at ts830s.blogspot.com
>
> I wanted to share it with the group and also hear any advices you may have
> for me.
>
> Thanks a lot and 73!
>
> Marcio Pocciotti
>
>
> Nice work. Please remember to sign your posts with your name(which you
> have done) and, your call sign(if any).- WB7UQU
>
>
>
>

47400. RE: TS830S Unstable on 10M - no output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-04 00:11:00 UTC
From: <dlacroix@...>
Topic: 46900 Message: 47400

Some more detail, while I had the switch apart, I soldered all the contacts. Had to scrape the board traces to get a pad that would take solder. The did a final check on each wafer to verify there were no shorts and the continuity came all the way to the wafer pins.
Yes, I ran across the issue of bent pins mucking up the traces, in that case I had to bend the pin back toward what was left of the trace and solder it together. Checked it with ohmmeter and it read good. I assume I had all the switches vertical since I didn't solder it down until the entire assembly was back together. The shaft of the bandswitch slipped through all the wafers without any problem.
One thing I didn't check when disassembling was that all the wafers index to the shaft the same way. There is a notch on the center plastic piece that the shaft goes through. When assembling, I lined up all those notches the same way.
At any rate it's kinda disheartening to have so much worse results after the procedure.
I gained ALC on 28M, lost everything on 1.5M, lost ALC on 29M and 24M.
Dave WB0SD

47401. New (to me) TS-830S Station

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-04 01:42:30 UTC
From: <joe.dale.hardin@...>
Topic: 47401 Message: 47401

Hello all,
I just bought a TS-830S station including a SP-230, SM-220, VFO-230, AT-230 and MC-50. Also included was the AT-250. The TS-830S has low output, cracked sprockets, and needs some cosmetics. The rest of the station will need just cleaning up for now. I plan to restore the entire station as I have time. My last restoration was an R-390A, so I know what I'm in for. Other than finding out that the Kenwood Hybrids are great rigs, I found out that this group is very helpful to those who are new owners and who are restoring these rigs. The availability of group expertise is very important to me because I know I will need help. Anyway, I just wanted to introduce myself so, in the future, everyone will know who is asking all those questions :).

Now, the various parts kits are arriving and the adventure begins. Firs task- take on the low output problem and see where that leads me.

Dale KS4NS

47402. Re: Re: [TS-520_820_530_830] Raspy CW note

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-04 02:26:20 UTC
From: Byron Tatum
Topic: 45334 Message: 47402

Hello Terry-
Here is my progress on the rspy CW note in my TS-520SE, if you have time to comment:
I used my R-390A to listen to these frequencies, with the gain cut way back and AVC off, with VFO near 360 KHz and on 3.5 Mhz band:
1. The VFO at 5 Mhz range -- sounds like a pure CW note
2. The 8.0 Mhz bandpass IF range -- sounds like a pure CW note
3. The transmit signal near 3.860 with driver tube installed -- very raspy
4. The transmit signal near 3.860 with driver tube pulled -- sounds like a pure CW note (but much, much weaker).
So, I am assuming the issue is in the driver stage, correct?
Tonight I plan to study the driver section schematic for possible suspects.
Thanks for all your help,
Byron WA5THJ

47403. Re: [TS-520_820_530_830] New (to me) TS-830S Station

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-04 04:35:03 UTC
From: Joseph Stiles
Topic: 47401 Message: 47403

Dale,

Welcome aboard! If you have not already, go to the groups "Home Page," and under the photo of that wonderful Kenwood station, on the left, click on "conversations." Then look above the picture and you'll see an area to enter search criteria. Be specific as possible here..because if you enter "low output," you'll get too many returns and go insane or, blind. Enter say:" TS-830S low output" to start. You will be able to go through previous posts/questions regarding that issue and more than likely find the solution to your problem.

  Please feel free to ask questions at any time if unsure.

  Enjoy your time here with us

73 Joe
WB7UQU
TS-520_820_530_830 yahoo group Co-Owner

On Monday, February 3, 2014 8:23 PM, "joe.dale.hardin@..." <joe.dale.hardin@...> wrote:

>Hello all,
>I just bought a TS-830S station including a SP-230, SM-220, VFO-230, AT-230 and MC-50.
 Also included was the AT-250. The TS-830S has low output, cracked sprockets, and needs some cosmetics. The rest of the station will need just cleaning up for now. I plan to restore the entire station as I have time. My last restoration was an R-390A, so I know what I'm in for. Other than finding out that the Kenwood Hybrids are great rigs, I found out that this group is very helpful to those who are new owners and who are restoring these rigs. The availability of group expertise is very important to me because I know I will need help. Anyway, I just wanted to introduce myself so, in the future, everyone will know who is asking all those questions :).
>
>
>Now, the various parts kits are arriving and the adventure begins. Firs task- take on the low output problem and see where that leads me.
>
>
>Dale KS4NS
>
>
>

47404. RE: Intermittent Transmit for 530S?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-04 05:13:39 UTC
From: <ns2p_tx@...>
Topic: 47300 Message: 47404

No - single rig going through tuner to wire dipole. What you are seeing me switching is the tuner between dummy and live "pass through" ANT1 to my antenna.

The problem occurs when using "send" key as well as mic - so that seems to rule out mic. I believe my problem is a relay. Reading Jim Shoker's website, HybridRestore.com, the relays do go bad - in theory through an over current situation.

I'll try to access, but I think this is a sealed relay. Also seem to be hard to get.

Thanks again for input for this Hybrid Newbie. I need to get this TS530S on the air!

73

NS2P

47405. RE: [TS-520_820_530_830] The heroic folks at Kenwood - a tribute!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-04 05:23:11 UTC
From: <big_argus@...>
Topic: 47087 Message: 47405

When I was working for GE, all of our inspectors were women. I was told that women were able to perform semi-complex, repetitive tasks all shift long without getting bored or distracted as men would. Sounds sexist, but apparently there's a reason hidden there somewhere.

James
KG5AAQ

47406. RE: Intermittent Transmit for 530S?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-04 05:14:32 UTC
From: <ns2p_tx@...>
Topic: 47300 Message: 47406

Sorry - supposed to sign my posts with first name and call, so...

Chris, NS2P

47407. RE: Brand New TS-830S - A story

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-04 06:34:24 UTC
From: <scottandalene@...>
Topic: 47391 Message: 47407

Hello Marco,
I have just read your blog with the beautiful photos and I am very impressed! You have a right to be proud of your purchase and I hope you will keep the radio and treasure it for a lifetime. It is especially nice since your father owned two TS-830S rigs! I am the proud owner of a TS-530SP, but would love to get a nice 830S.
73s, Scott, N6CIC

47408. RE: TS830S Unstable on 10M - no output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-04 11:37:47 UTC
From: <wagstw46@...>
Topic: 46900 Message: 47408

Dave:

I dont align with a notch in the oblong center hole?

There is a circle indent on each wafer (white plastic) and I place all of these at the 9 oclock position. One tip for future I recommend first timers remove and repair one board at a time starting with the Drive coil board at the rear of the shaft. No way to mix them up and easy to re-solder and make sure the board is plumb as the thru bolts and other boards will help align it. If not vertical you can bend in place but dont want to do very much back and forth movement of the flat pins as they can crack and break off.

Also be very careful about bending the actual contact fingers. Some recommend pressing down on them gently with finger nail during the cleaning step. If you do that in to the open window without the wiper between the two sets you can actually push it down too far and when you rotate the wiper it will hit the edge of the contact finger and twist the contact. Now you are in real trouble.

If you look at the contact finger under magnification you will see each edge has a bent up wing to guide the wiper into the gap and spread the contact fingers. Very rare to find any contacts that have actually lost their spring temper and the source of the high resistance. I have found them where some one mucked them up putting some kind of cleaning tool blind into the switch deck.

After solder repair to the rivet, contact, pc trace interface and you still measure high resistance you can rotate the wiper so it is not between the contact fingers and then very very gently press down on the contact fingers and then rotate wiper into the gap and watch to see it strikes properly and lifts the contact finger up as it rotates in place from each direction . Then you can re-measure the resistance. Again this has to be done very carefully as easy to press it too far.

If you have gotten the bandswitch contacts out of alignment with the S22 switch in PA cage usual symptom is cant load properly as now selecting wrong tank coil tap and padder caps for a given band and maybe even have glowing final tubes.

I am not sure what will happen if you just mis-align the band switch decks. I would assume would loose RF drive and ALC indication as wrong or no Mixer and Driver tuned circuits would be selected.

If you take a good brite flashlite you can look down inside the gaps between the boards and see the white circles. Place band switch at 10 (30 meters) and look at each deck and should see all the white dots at 9 oclock (left side with rig facing you).

You can also see if you have switched on of the 4 contact boards for one of the multicontact boards.

If they are all aligned correctly and appear to be in correct order then will likely have to pull the RF board and inspect all the pin soldering under magnification.

Terry K9TW

47409. RE: Intermittent Transmit for 530S?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-04 11:50:47 UTC
From: <wagstw46@...>
Topic: 47300 Message: 47409

The relay is not a sealed relay just a dust cover. No good way to remove cover and clean the contacts. Any attempt to do so has element of risk of damage and any fix you get wont be long lived.

That .01 decoupling cap is discharging to ground thru one of 8 contacts in this Aux relay. The contact in question controls switching the 6146 control grid cut off bias to operating bias by grounding the end of the bias voltage adjust pot. Very seldom a problem.

Have to study the schematic and understand what all 8 contacts do. Relay can cause no ALC indication as contacts do switch from ALC to AGC monitoring. Relay can cause delayed return to receive as mosfet Rx and Tx gate 1 bias voltage is controlled.

There are couple of people looking for replacement NF4EB aux relays at this time and they have found sources and expect them to be available again soon.

If you have rig in SSB mode and mic gain is down and flip to send or push PTT and get output power I would check carrier null adjustment first. Service manual describes how to do that. Can be done with O-scope, RF probe and VTVM or if no test gear by placing another receiver close and listening for the null. Have to perform in LSB and USB to get balance.

Terry K9TW

47410. Re: Re: [TS-520_820_530_830] Raspy CW note

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-04 11:53:18 UTC
From: <wagstw46@...>
Topic: 45334 Message: 47410

You didnt say what happens with another Driver tube?

Terry K9TW

47411. Re: Re: [TS-520_820_530_830] Raspy CW note

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-04 12:08:43 UTC
From: <wagstw46@...>
Topic: 45334 Message: 47411

Also, is SSB audio clean?

Also, if note is clean with driver tube pulled then you have to be listening to the output of the TX Mixer and it means then that cause is not FM-ing due to any of the LOs varying.

By installing the Driver tube you are adding plate supply and screen supply and if they had bad filter cap could cause raspy note, but these supplies also supply finals screen grid voltage. Also adding the heater voltage and we already discussed heater to cathode leakage and heater supply bypass cap and choke. You are adding the interstage coupling capacitor from Driver tube plate to 6146 control grids and dc leakage would effect final control grid bias, but KW uses two caps in series to avoid this.

I agree study of the schematic is in order.

You could temporarily touch a good filter cap to the anode and screen grids of the Driver tube and see if note cleans up. Have to be careful doing that.

Terry K9TW

47412. Whackamole returns

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-04 13:58:22 UTC
From: <rrmvargo@...>
Topic: 47412 Message: 47412

Hello to the Group,
When I was first given the Whackamole, I did a cursory check of the major e-caps. I checked them for value & ESR. The original HV PS caps were about 120uf & 0.2ESR. Well I thought they have creeped up on value but were probably OK. But early last week & all of a sudden, it couldn't produce more than 40-60W. I noticed it would peak near 90W & drop quickly to around half that. I switched the meter to read HV & noticed it was varying ~600, down from 800+VDC. When I opened it up, I found the 2nd HV PS cap to measure open on my ESR meter & 10nF on the cap meter. The first cap still measured OK at 0.2ESR and 120uF.

I ordered 2 caps from Ken & some other junk. He shipped the day of my order, nice. I installed the new caps & HV is back up to near 900VDC on the radio's gauge. I measures 988VDC on my DVM. And the rig now puts out +100W again. And while I was in there I touched up the IF & RF board coil packs.

BTW, it has 6146W's, GE I believe. I did get an arc one time with these, after installing some of the suggested protection in TIE 004. But I have not experienced any issues since then, save the HV PS cap. Perhaps, moving the chassis around caused the tube elements to shift a bit or I knocked some debris loose in the tube.

I had the 830 on last nite & was told I sound the best I ever had. I was using an MD-100 Yaesu mic. Now I own a TS590 & FTdx3000 & IC751A. So I took that as a complement or maybe a knock on the other radios (or how I have them set up).

I love my old TS-830S. - 73 Bob W8RMV

ps- I have not checked the screen & driver caps (22uF 450V) as I have not pulled the IF board. Are they at great risk?

47413. Re: Brand New TS-830S - A story

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-04 17:20:38 UTC
From: Brian Allen
Topic: 47391 Message: 47413

I've looked for the blog and cannot locate it, can you point me in the right direction?

thanks brian kb4mng

47414. Re: [TS-520_820_530_830] Re: Brand New TS-830S - A story

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-04 17:35:49 UTC
From: Joe - W7RKN
Topic: 47391 Message: 47414

Here it is, as found in his original post.

http://ts830s.blogspot.com.br

(Nice page setup too! With great photographs to go along with the story of his acquisition!)

Joe - W7RKN
----- Original Message -----
From: Brian Allen
Subject: [TS-520_820_530_830] Re: Brand New TS-830S - A story

I've looked for the blog and cannot locate it, can you point me in the right direction?

47415. Re: [TS-520_820_530_830] Re: Brand New TS-830S - A story

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-04 18:12:06 UTC
From: Craig Roberts
Topic: 47391 Message: 47415

It's a very nicely composed, attractive and entertaining presentation. I am hoping that someday the lucky owner of the seemingly unmolested Gold Label TS-830S will turn the IF board over to see if the empty filter circuit board holes really are pristine with no sign of desoldering. Either way, it would be revealing.

73,

Craig
W3CRR

Sent from my iPhone

>
>
>
>
>
>

47416. DC to DC Converter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-04 06:42:24 UTC
From: Wayne Schrubbe
Topic: 47416 Message: 47416

Hi I have a Kenwood TS 520s and it does not have a DC to DC converter on it.
I have been looking for one for about a year now. And I have never run
across one.
I was wondering if I do run across one, can I use one from a 520, on my
520s?
and what would be a good price for one?
I know I could just get an over the counter one, but I rather have one that
would
go on the back of my radio.
Can anyone fill me in on DC to DC converters? Thanks for your time. I
just love the group here, I am learning so much....
Thanks 73
Wayne N9RXB

47417. RE: VFO capacitor

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-04 13:34:31 UTC
From: <glene77is@...>
Topic: 45334 Message: 47417

Terry K9TW

I know this sounds Stone-Age,
but I sometimes find local band conditions so very bad
that CW signals come across with the band noise : raspy.
Low end (7025) can be bad and upper end (7125) is cleaner.
Terry, your advice about the rigs is always interesting.
Glen KK4LPG

47418. Re: Re: [TS-520_820_530_830] Raspy CW note

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-04 14:03:48 UTC
From: Byron Tatum
Topic: 45334 Message: 47418

Terry-
   I substituted a NOS driver tube and had same results.

From: "wagstw46@..." <wagstw46@yahoo.com>
To: TS-520_820_530_830@yahoogroups.com
Sent: Tuesday, February 4, 2014 5:53 AM
Subject: Re: Re: [TS-520_820_530_830] Raspy CW note

You didnt say what happens with another Driver tube?

Terry K9TW

47419. TS-830s relay

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-04 18:13:51 UTC
From: Steven Springer
Topic: 47419 Message: 47419

onlinecomponents has the NF4EB-12v priced at $43.78 ea but when you put it in your cart it is $9.06 but will need to buy 4 to meet the minimum $30 order. 1500 in stock.

Steve
K0SJS

47420. RE: VFO capacitor

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-04 19:35:10 UTC
From: <wagstw46@...>
Topic: 45334 Message: 47420

Yes propagation can have all kinds of effects on signal quality. Polar echo or flutter for example come to mind.

However we are talking about a raspy transmit CW note that the poster is hearing in a seperate receiver.in his shack. On occasion you can get have Fm-ing occur which will make your CW note not pure. Can also modulate it with 60hz or 120 hz due to power supply problems.

Why dont you ask Byron if gets same on air reports on all bands and at different times. If he does pretty safe bet he has a problem. I guess I assumed he had already exhausted that or thought he had said so in earlier post?

Terry K9TW

47421. Re: Re: [TS-520_820_530_830] Raspy CW note

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-04 19:44:36 UTC
From: <wagstw46@...>
Topic: 45334 Message: 47421

OK good. So what change occurs when you install the Driver tube?

Well you are amplifying the 2 or 3 volt Rf drive signal from the TX Mixer to the control grid of Driver tube and producing a 60 volt or so Rf signal at the anode. That is then coupled to the control grids of the 6146 finals as a 49 volt rf drive signal.

For one thing putting Driver tube back in socket introduces the anode and screen grid supplies into the mix. Are they clean?

I still am interested in if SSB TX is clean.

Terry K9TW

47422. RE: TS-830s relay

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-04 19:47:26 UTC
From: <wagstw46@...>
Topic: 47419 Message: 47422

Thanks Steve now if could be 100% certain they are not pulls. That is what happened to Ken Kempski. The vendor advertised them as NOS and they turned out to be pulls and refused to refund his money.

I didnt try putting one in the cart when I found this site. It might be worth buying 4 to find out if they are in fact NOS relays. I will have to think about it.

Thanks
Terry

47423. Re: [TS-520_820_530_830] Re: Brand New TS-830S - A story

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-04 20:20:17 UTC
From: <mpocciotti@...>
Topic: 47391 Message: 47423

Hello Craig,

Thanks for your words.
As soon as I have time I'll take pictures of the IF board.

Cheers,

Marcio Pocciotti

47424. Re: Re: [TS-520_820_530_830] Raspy CW Note TS-520SE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-04 17:33:48 UTC
From: Byron Tatum
Topic: 45334 Message: 47424

Terry-

I found the source of the raspy TX CW note in my TS-520SE, it was the dual 22 uFD at 450 VDC electrolytics. I went ahead and replaced both of them. The originals were not the nice ELNA brand as used in most units, they were a "Marcom" brand from factory. Even though I know it is not the best practice, for now I replaced the pair with a set of good used ELNA's from a TS-820S parts unit I picked up recently. I reformed the ELNA's on my capacitor checker and checked them, they checked out good. I installed them today and all problems went away.

I need to find a source of these dual 450 VDC caps in order to keep some spares on hand, does anyone know where they may be obtained (or, will we have to resort to stuffing or building a small PC board?).

Thanks, Byron WA5THJ

47425. Re: Re: [TS-520_820_530_830] Raspy CW note

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-04 14:02:43 UTC
From: Byron Tatum
Topic: 45334 Message: 47425

OK Terry-
Yes, all notes sound very good up to and immediately past the second TX Mixer on RF Board. I have already replaced the 14 VDC filters (2 of 2200 uFD) and the PA Bias filters (2 of 33 uFD). All of these were the ELNA brand, which normally are very long lived and high quality, and the caps were OK and not really bad at all.
I am starting to suspect my screen or plate voltages also.
I can adjust bias to idle finals at 60 mA OK, but the finals cannot be driven past approx. 130 mA with full carrier on 75 meters, showing about 35-40 watts output. I have installed a tested, NOS 12BY7A Sylvania made from a Motorola branded box. I have not checked the GE 6146B's or substituted there yet.
Today I will focus on the 210 and 300 VDC voltages and the two dual filter caps C-15 and C-16.
Thanks, Byron

47426. Re: Re: [TS-520_820_530_830] Raspy CW note

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-04 21:22:12 UTC
From: <wagstw46@...>
Topic: 45334 Message: 47426

What is your HV meter reading? If it is approx 450vdc you have lost one of your HV filter caps. If so replace both.

Terry K9TW

47427. RE: DC to DC Converter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-04 21:41:56 UTC
From: <ke5ftf@...>
Topic: 47416 Message: 47427

Hi Wayne,
I have a nice DS-1A Converter...
Benched for proper amp draw when in 100W CW TX....
Sell for $85.00 plus $6.00 to mail by Priority Mail...

Note ..You will need to take a AC cord & convert it for DC operation...
I can sell the AC cord for $12.00

The DS-1A converter is for the TS-520, 520S. 820 & 820S....

Bob
KE5FTF
****

47428. RE: Brand New TS-830S - A story

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-04 20:22:50 UTC
From: <mpocciotti@...>
Topic: 47391 Message: 47428

Thanks a lot Scott, I'm enjoying it a lot! I hope I can keep it healthy and make a lot of QSOs.

Cheers,

Marcio Pocciotti
PY2592SWL

47429. Re: Re: [TS-520_820_530_830] Raspy CW Note TS-520SE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-04 22:42:55 UTC
From: <paw_paw44036@...>
Topic: 45334 Message: 47429

Byron, you can try here as they carry a lot of caps.

http://www.justradios.com/capacitors.html http://www.justradios.com/capacitors.html

Bill WD8OSJ

47430. Re: Re: [TS-520_820_530_830] Raspy CW Note TS-520SE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-04 22:44:01 UTC
From: <wagstw46@...>
Topic: 45334 Message: 47430

Ok then you had ripple on your Driver tube anode supply and Driver tube and Finals screen grid supply. Did this bring your RF output up?

Ken K4EAA sells these caps.

Terry K9TW

47431. Re: Re: [TS-520_820_530_830] Raspy CW Note TS-520SE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-04 23:27:56 UTC
From: <wagstw46@...>
Topic: 45334 Message: 47431

Might try Hayseed.

In my own 520 I have individual caps in lieu of the cans.

Hayseed does a great job of re-stuffing cans but is not cheap. I have used him for some of my HP test gear that I wanted to return to factory.

Terry K9TW

47432. RE: Whackamole returns

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-04 23:43:52 UTC
From: <wagstw46@...>
Topic: 47412 Message: 47432

Not at great risk but I have replaced them in my personal rigs and some customers request that I replace them along with the HV caps. I have a box of 22uf Elna 350vdc pulls that ESR around .67.

When they fail usually dont cause as much collateral damage as the HV caps but I have seen burned up R11 470 ohm resistor in the C-R-C filter path and a carbon path burned under R11 on a TS530 If board where it is mounted back with the 4 caps instead of on the HV rect board. Pretty much ruins the IF board.

Ken K4EAA sells Nichicon 450vdc replacements that ESR around .90. .

Terry K9TW

47433. dual 450 VDC caps

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-05 00:03:23 UTC
From: Jan Servaites
Topic: 45334 Message: 47433

I found F&T (A German company) has a dual cap that works in the early hybrids. I used them in my T599 recap, and they fit perfect. I'll be getting a few more for my 820s
http://www.tubesandmore.com/products/C-EM33-33-450
Jan N8CBX

47434. RE: Whackamole returns

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-05 00:13:43 UTC
From: <rrmvargo@...>
Topic: 47412 Message: 47434

Thank you Terry.

I got 4 of them from Ken also. And my measurements agree with yours 0.85 to 0.92 ESR. The original caps do not show any physical distress that I can see. So I'll leave them in there until I see an issue with them or some other issue crops up. As I was typing this I had a thought that I might be able to trace their connection & see if I can get to the leads on the topside of the board from another component. My 830 is a 2M SN, so it is on the old side compared to the 8M numbers.

My 830 sounded so good yesterday, that a fellow ham I ragchew with is pulling out his TS-520S for tonite!

73 - Bob W8RMV

47435. RE: TS-830s relay

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-05 00:19:58 UTC
From: <davidcuttler@...>
Topic: 47419 Message: 47435

I purchased three of them for my 830S and only needed one. So if someone wants one, I they can have it for $15.00 shipped. It in new not a pull. It worked well in my rig.

I also have the other relay. I forgot which one it is but it is a small black cube and I had to buy 10 to get one so I have 9 of those too. This was when I went through my 830S replacing everything that could go wrong in the future.

If you want to contact me please do it off list.

David - KE6YX

47436. Re: [TS-520_820_530_830] dual 450 VDC caps

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-05 00:14:10 UTC
From: Byron Tatum
Topic: 45334 Message: 47436

Thank you Jan-
   Sure looks like a nice cap!
      Thanks, Byron WA5THJ

From: Jan Servaites <jservaites@...>
To: TS-520_820_530_830@yahoogroups.com
Sent: Tuesday, February 4, 2014 6:03 PM
Subject: [TS-520_820_530_830] dual 450 VDC caps

I found F&T (A German company) has a dual cap that works in
the early hybrids. I used them in my T599 recap, and they fit perfect.
I'll be getting a few more for my 820s
http://www.tubesandmore.com/products/C-EM33-33-450
Jan N8CBX

47437. RE: TS830S Unstable on 10M - no output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-05 00:15:27 UTC
From: <dlacroix@...>
Topic: 46900 Message: 47437

Thanks Terry,
I think you're right, I'll have to pull it apart again and do some more checking. Is an ohmmeter good enough or do you recommend another way to test those switches? I think someone mentioned checking voltage drop across the switch but not sure if that can be done while it's still mounted on the RF board.

Dave WB0SD

47438. Re: Re: [TS-520_820_530_830] Raspy CW Note TS-520SE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-05 00:16:58 UTC
From: Byron Tatum
Topic: 45334 Message: 47438

Yes, it did.

PSE remember to properly sign ur posts, tnx - WB7UQU

47439. I may be slow

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-05 02:30:38 UTC
From: <scottsheppard@...>
Topic: 47439 Message: 47439

How do we follow the threads on this group? Can't seem to follow any given topic with my ipad....I sure it's possible...?

Cheers
Scott

PSE remember to properly sign ur posts/msgs tnx - WB7UQU

47440. Re: [TS-520_820_530_830] I may be slow

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-05 03:31:45 UTC
From: Joseph Stiles
Topic: 47439 Message: 47440

Scott,

You should be able to see above a msg/post, previous msg/posts that other have submitted to that particular thread, or at the bottom of a msg...there are selections ie: "Reply via web post".....etc at the far right...it says "messages in this topic" ...click that and your should see all
the msgs in that thread

73 Joe
WB7UQU

On Tuesday, February 4, 2014 7:26 PM, "scottsheppard@..." <scottsheppard@...> wrote:

>How do we follow the threads on this group? Can't seem to follow any given topic with my ipad....I sure it's possible...?
>
>
>Cheers
>Scott
>
>
> PSE remember to properly sign ur posts/msgs tnx - WB7UQU
>
>
>
>
>
>

47441. Re: [TS-520_820_530_830] Re: Brand New TS-830S - A story

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-05 03:30:39 UTC
From: Jim W7RY
Topic: 47391 Message: 47441

I knew I was right!

There are several web sites that claim the 830 Gold came with all the filters. I disagreed and told those that were dead set on this point that I disagreed and why.

Here we have a NEW TS830 Gold, with only the stock SSB filter.

But I'm not gloating.
73
Jim W7RY

On 2/4/2014 9:35 AM, Joe - W7RKN wrote:
>
> Here it is, as found in his original post.
> http://ts830s.blogspot.com.br
> (Nice page setup too! With great photographs to go along with the
> story of his acquisition!)
> Joe - W7RKN
>
> ----- Original Message -----
> *From:* Brian Allen <mailto:bsa0791@...>
> *Subject:* [TS-520_820_530_830] Re: Brand New TS-830S - A story
> I've looked for the blog and cannot locate it, can you point me in
> the right direction?
>
>

47442. Re: [TS-520_820_530_830] Re: Brand New TS-830S - A story

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-05 03:31:57 UTC
From: Jim W7RY
Topic: 47391 Message: 47442

Well done Marcio! Congratulations!

73
Jim W7RY

On 2/4/2014 9:35 AM, Joe - W7RKN wrote:
>
> Here it is, as found in his original post.
> http://ts830s.blogspot.com.br
> (Nice page setup too! With great photographs to go along with the
> story of his acquisition!)
> Joe - W7RKN
>
> ----- Original Message -----
> *From:* Brian Allen <mailto:bsa0791@...>
> *Subject:* [TS-520_820_530_830] Re: Brand New TS-830S - A story
> I've looked for the blog and cannot locate it, can you point me in
> the right direction?
>
>

47443. TS-520 Receiver Spurious Responses

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-05 03:51:31 UTC
From: Byron
Topic: 47443 Message: 47443

Hello-
I am going through a very nice condition TS-520 (not the "S" version)and I discovered the receiver is full of spurious responses. I have never noticed this on any other TS-520 or TS-520S that I have checked out. As far as I know everything else is OK on the unit, I have checked voltages from the AVR board, gone through the RF alignment of front end coils and adjusted the receiver traps per manual. On 75 meters there are two signals about4 KHz apart, one stronger than the other; I noticed this when adjusting L-11 while tuned to a 3.736 signal. It is not as pronounced on 40 meters, but when I turn on the calib there are spurious signals all over the band, some fairly strong;enough to make it a little hard to find the actual calib signal.
I also noticed a mod someone has done: They broke the red wire going to the VFO power plug and inserted a 500 ohm pot in series with it. I measured about -2.0 VDC on VFO side of pot.
Any advice appreciated, Byron WA5THJ

47445. New TS530/TS830 Drive Control Drive Sprockets

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-05 11:37:36 UTC
From: <wagstw46@...>
Topic: 47445 Message: 47445

I have just had an opportunity to get my hands on the newly designed and manufactured upper chain drive sprockets for the TS530 and TS830 rigs. Those of you who own or work on these rigs know that the original white nylon sprockets crack at the set screw tapped holes and if bad enough can allow the three air variable capacitors to get out of sync that among other things causes the ALC indication to get touchy and RF drive to be less than ideal.

Gregory NR6C has manufactured these beautiful replacements using a 3D printing process and is now offering them for sale on his website. Go to WWW.NR6C.COM and click on the link to see the design story and place an order for your sets.

I have installed a set in one of my TS-830 radios and they work just fine. The install is easy. Just take a digital picture of the original installation. Mesh the plates fully which should bring each chain tensionsers up to within one link of engaging the sprocket teeth. Loosen the 4 screws on the brass coupler and slide it back. Now you can grasp the drive shaft with the cracked sprockets and dis-engage it from its bearing stanchions on each end. Now you can remove the chains and the old sprockets (assuming previous owner didnt attempt JB Weld or Epoxy repairs). Use a jewelers file and clean the burrs off the shaft where the old set screws seated. You can also lightly polish the shaft with crocus cloth or fine sandpaper. Now just slip on three new sprockets and reverse the assembly. Make sure that all plates are fully meshed and when you move the Drive control knob that they all open simultaneously. They may not if someone has stretched out the chain tensioners. With the knob at 1200 position all three capacitors should be 50% open.

I want to thank Gregory for his efforts. When I hold these in my hand it is hard to believe how quickly from the idea to actual production this has happened. In my day the draftsman would still be sitting at his drafting board working on the hand drawn engineering drawing.

Check with Greg regards availability and shipping. He has set the price very reasonable. Looks to me like it is just a labor of love to help our members keep these treasures on the air without resorting to bubble gum and baling wire!

73s
Terry K9TW

47446. RE: TS830S Unstable on 10M - no output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-05 12:07:31 UTC
From: <wagstw46@...>
Topic: 46900 Message: 47446

Dave:

You can try measuring in circuit, but I dont think you will be successful as too many shunt paths.

I dont know if you used good lite and magnifier or not when you did this. For me it is a must. I wear a magnified head set.

You have to make sure that the rivet head, contact material, and the PC trace are cleaned very brite to remove all oxide and solder mask. On some contacts you have very little trace to work with. You really only need to electrically bond the contact material and the PC trace but due to small size and spacing pretty much have to get the solder to flow and wet to all three materials. Also by engaging the rivet head it prevents it from rotating back and forth. You just need to make sure that you have not just bonded the rivet head and the PC trace and not got good bond to the contact material.

For this reason I still lean toward the installation of a very small gauge tinned bus wire (I use #26 to # 28) from the window of the hair pin loop to the PC trace. This may not completely limit rivet rotation, but you no longer rely on the rivet pressure for the conductive path.

As to contact resistance a DMM, or ESR bridge is commonly used and depending on your lead resistance should be able to get all to close to 0.10 ohms.

A better test would be the standard relay contact "6/1" test where you apply 6vdc from a bench supply or lantern batteries limited to 1 ampere thru a series resistor or pot. Then with your DMM you measure the IR drop across the contacts. Should read better than 100mv across each contact. 100 mv IR drop across the contact = 100 milliohms.

I only suggested that you fold over the the audio board and remove access plate so you could look at the pin soldering to make sure you didnt miss any or have bad solder connection at that point. Up to you if you want to start there.

Probably at this point you are going to have to pull the board again. If you do that just remove one bandswitch deck at a time. Have to be very careful now not to lift pads during 2nd unsolder/resolder cycle. No need to bend the two tabs over when you re-install.

I have to say this is not an easy task but also not beyond average hams ability. I have however seen some attempts that looked like a pigeon may have flown over head and left a deposit at the contacts. Very easy to just blob on lots of solder.

Lastly, dont be tempted to press around on the contact fingers. If you do that without the wiper in the gap between them you can press them down in the opening as they are very soft and really have very little spring temper. If pressed down too far then when the wiper passes by it may catch the fingers and bend the contact aside and now you are really in trouble. Almost impossible to get back in alignment. I seldom see a bad contact due to not enough pressure between the mating fingers. When I am done I rotate the wiper back and

forth thru the contact and watch it strike the bent up "wings" on each edge and lift the contact as it slides thru. If you see this lift of the upper contact finger you know you have adequate contact pressure.

Sorry so long. Just trying to share what I know and if you read thru the lines might be able to figure out that I have learned the hard way.

Terry K9TW

47447. RE: TS-520 Receiver Spurious Responses

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-05 12:48:32 UTC
From: <wagstw46@...>
Topic: 47443 Message: 47447

Byron:

I have written on this more than once and not sure if easy to pull it out of the archives or not in this new format. So will share some of it again.

You should also find a strong birdy at 21.20. These birdies are inherent in the design with the 3.736 the most objectionable. It is due to the mixing scheme and LOs used. The Het LO at 12.395mhz is the biggest offender.

Kenwood talks about this when they introduced the TS510. Look at the owners manual on page 10 Section 8 and you will see they discuss "spurs" even listing the frequency of the biggest offenders. The design and mixing scheme of the TS520 is the same.

If you look at the TS520S you can see how they minimized this problem by placing a suck out (series resonant) trap T13/C62 at input of the Mixer Q9 on the IF board. RIF mixes with VFO here and it sees the 12.395 Het LO leak thru.

If you look at the TS520 you will see that trap L2/C15 is placed at the output of Q4 Mixer where it is less effective. I pulled a L2/C15 from a parts 520 rig and tack soldered it at TP-2 on the IF board and could then alternately adjust both traps to pretty much completely null the 3.736 birdy. it is still installed on my personal TS520.

Some members report they dont hear these birdies or never noticed any of them. Some folks have a less discriminating ear and/or these are rigs that have not been well aligned or have aged and never been given a tune up. It is a design flaw that among other things the TS520S changes addressed.

One other thing you can do is try lowering the 12.395mhz Het Osc level. Typical for it to be peaked at approx 800mv to 1.0 volt. If you lower it to approx 600mv level at TP-3 the audio level of the 3.736 birdy will be greatly reduced and the S-meter will fall back to zero.

600mv should be enough Het Level for good Rx and TX mixing. Just have to make sure Het Osc starts reliably each time you switch to 80 meters.

Terry K9TW

47448. RE: TS-520 Receiver Spurious Responses

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-05 14:40:44 UTC
From: <wagstw46@...>
Topic: 47443 Message: 47448

Byron

I forgot to mention if you dont like the idea of reducing the 12.395mhz Het level to 600mv and want to mod the rig to match closer to the TS520S improved design and have no access to a scrap RF board to pull the series resonant trap you can just make your own trap.

If you calculate the LC values for 12.395mhz you will see you will need a 5pf cap and a 28 to 30 uhy choke. Want to stick to this approx LC ratio for adequate Q. The actual values wont exactly match what you calculate because when you tack in place at TP-2 there will be circuit parasitic capacitance and inductance that will effect your trap Fc. Best to use a miniature tuned slug inductor of from approx 26uhy to 30uhy if you can find a nice small one. Might try Surplus of Nebraska.

I would try reducing Het level on 12.395mhz to around 600mv as a first step that may make the birdie level tolerable for you.

You could also contact Bob Mansker and see if he has a parts TS520 RF board. More expensive option, but then have a plethora of parts.

Terry K9TW

47449. Re: [TS-520_820_530_830] RE: TS-nnn relays

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-05 15:57:24 UTC
From: CROOKS David
Topic: 47449 Message: 47449

Hi Terry,

For interest, this link is on the design of relay contact resistance.
http://www.te.com/documentation/whitepapers/pdf/Performance_implications_Silver_Myers2009.pdf

Dave f4eyk

47450. Re: [TS-520_820_530_830] RE: TS-nnn relays

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-05 16:38:52 UTC
From: <wagstw46@...>
Topic: 47449 Message: 47450

Thanks

Way over my head. I am no relay engineer.

I worked with relays of all types for years in fossil and nuclear power and in fossil plants not too many relays with silver contacts due to hydrogen sulfide atmosphere. I didnt spec them. I caled and tested them under PM umbrella and replaced them under CM. Had to be very careful as some were in CT circuits and if opened could be fatal. Most were on a 5 year cal frequency. Dont remember too many with bad contacts.

We did have a lot of high ampacity bus work with bus splice plates or 'links" as they were called and I remember using a product called Cool Amp which was a white powder and you dipped moistened rag in it and rubbed it on the surface of the links. It actually deposited thin coat of silver. Was very expensive. Dont know if it still exists or not. Might be some application for it in our rigs? Maybe apply it to the band switch wipers? Hadnt thought of that until this point paper.

I am just telling people that OK to use ohm meter to measure contacts for gross indication, but the standard "6-1" test described in almost all manufacturers relay app notes is better measure of contact resistance. Most hams dont own a Milliohm meter as they are expensive so measuring the millivolt IR drop is easy for them to do as most have a DMM and if dont have a DC bench supply 6 volt lantern batteries are good alternative.

Thanks for sharing.

Terry K9TW

47451. Re: [TS-520_820_530_830] Re: Brand New TS-830S - A story

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-05 06:42:55 UTC
From: <kmx888@...>
Topic: 47391 Message: 47451

What was the point of the 830 Gold as opposed to the "plain" 830?
Kevin
KD0ILM/XV2KM

47452. Re: [TS-520_820_530_830] RE: TS-520 Receiver Spurious Responses

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-05 14:10:33 UTC
From: Byron Tatum
Topic: 47443 Message: 47452

Hello Terry-
   Thank you very much for the reply and the great information. I do have the spare parts here and will try installing the L-2/C-15 trap on IF board and retuning my 12.395 Het Osc coil.
   Thank you!
   Byron WA5THJ

From: "wagstw46@..." <wagstw46@...>
To: TS-520_820_530_830@yahoogroups.com
Sent: Wednesday, February 5, 2014 6:48 AM
Subject: [TS-520_820_530_830] RE: TS-520 Receiver Spurious Responses

Byron:

I have written on this more than once and not sure if easy to pull it out of the archives or not in this new format. So will share some of it again.

You should also find a strong birdy at 21.20. These birdies are inherent in the design with the 3.736 the most objectionable. It is due to the mixing scheme and LOs used. The Het LO at 12.395mhz is the biggest offender.

Kenwood talks about this when they introduced the TS510. Look at the owners manual on page 10 Section 8 and you will see they discuss "spurs" even listing the frequency of the biggest offenders. The design and mixing scheme of the TS520 is the same.

If you look at the TS520S you can see how they minimized this problem by placing a suck out (series resonant) trap T13/C62 at input of the Mixer Q9 on the IF board. RIF mixes with VFO here and it sees the 12.395 Het LO leak thru.

If you look at the TS520 you will see that trap L2/C15 is placed at the output of Q4 Mixer where it is less effective. I pulled a L2/C15 from a parts 520 rig and tack soldered it at TP-2 on the IF board and could then alternately adjust both traps to pretty much completely null the 3.736 birdy. it is still installed on my personal TS520.

Some members report they dont hear these birdies or never noticed any of them. Some folks have a less discriminating ear and/or these are rigs that have not been well aligned or have aged and never been given a tune up. It is a design flaw that among other things the TS520S changes addressed.

One other thing you can do is try lowering the 12.395mhz Het Osc level. Typical for it to be peaked at approx 800mv to 1.0 volt. If you lower it to approx 600mv level at TP-3 the audio level of the 3.736 birdy will be greatly reduced and the S-meter will fall back to zero.

600mv should be enough Het Level for good Rx and TX mixing. Just have to make sure Het Osc starts reliably each time you switch to 80 meters.

Terry K9TW

47453. Re: [TS-520_820_530_830] RE: TS-520 Receiver Spurious Responses

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-05 14:57:23 UTC
From: Byron Tatum
Topic: 47443 Message: 47453

OK Terry-
  I do have some parts units TS-520's here, no issues on parts. Also I do have a large parts inventory here of inductors of all types. So, getting that trap at TP-2 will not be an issue.
 I surely thank you!
   Byron WA5THJ

From: "wagstw46@..." <wagstw46@...>
To: TS-520_820_530_830@yahoogroups.com
Sent: Wednesday, February 5, 2014 8:40 AM
Subject: [TS-520_820_530_830] RE: TS-520 Receiver Spurious Responses

Byron

I forgot to mention if you dont like the idea of reducing the 12.395mhz Het level to 600mv and want to mod the rig to match closer to the TS520S improved design and have no access to a scrap RF board to pull the series resonant trap you can just make your own trap.

If you calculate the LC values for 12.395mhz you will see you will need a 5pf cap and a 28 to 30 uhy choke. Want to stick to this approx LC ratio for adequate Q. The actual values wont exactly match what you calculate because when you tack in place at TP-2 there will be circuit parasitic capacitance and inductance that will effect your trap Fc. Best to use a miniature tuned slug inductor of from approx 26uhy to 30uhy if you can find a nice small one. Might try Surplus of Nebraska.

I would try reducing Het level on 12.395mhz to around 600mv as a first step that may make the birdie level tolerable for you.

You could also contact Bob Mansker and see if he has a parts TS520 RF board. More expensive option, but then have a plethora of parts.

Terry K9TW

47454. TS-530S SSB filter adjustment

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-05 17:26:53 UTC
From: <crgrbrts@...>
Topic: 47454 Message: 47454

I am revisiting this topic with a different query.

To recap: I recently replaced my TS-530S's 2.4 KHz SSB filter with an 8-pole 2.8 KHz INRAD model and I am attempting to optimize the SSB frequency response (Step 24 in the ambitious TS-530S alignment sequence).

When last we spoke, I did not have an AF tone generator at hand. Well, now I do -- kinda. It's a software driven tone generator downloaded from NCH Software (http://www.nch.com.au/tonegen/index.html). I can inject its tones into my radio's mic jack via my SignaLink digital modes interface. It seems to work nicely. I can set the generator to any frequency or series of frequencies I wish. However, given my lack of test gear, I have no way of regulating its output to the specified 7 mV level. Does this matter much?

If not, here's my cunning plan: I will tune the radio to 14.175 MHz USB as specified, inject a 1500 Hz AF signal into the mic jack, and tune up the transmitter to 50 watts output into a dummy load as measured by my trusty and newly calibrated Drake W-4 wattmeter, I will then inject tones at 300 and 2700 Hz alternately and adjust the appropriate trimmer (TC3) to obtain equal output drop offs at the two frequency extremes. Then, switching to LSB, I will repeat the process by adjusting TC2.

Does this sound feasible? My TS-830S transmit audio is easy to tailor by ear by employing the radio's built-in monitor. The 530 is a bit trickier to do by ear, however, since a second receiver, with its own quirks, must be used.

On air tests with other hams aren't always reliable. Not only does propagation and the status of the correspondent's receiver influence audio reports, the personality of the guy at the other end is a variable. This is otherwise known as the W2XXX vs. W5XXX principle (just kidding -- sorta).

Whaddya think?

73,

Craig
W3CRR

47455. Re: [TS-520_820_530_830] Re: Brand New TS-830S - A story

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-05 18:04:57 UTC
From: Alan Lewis
Topic: 47391 Message: 47455

According to Kenwood the Gold Label DID come with the filters pre-installed.

Sent from Samsung Mobile

-------- Original message --------
From: kmx888@aol.com
Date:05/02/2014 06:42 (GMT+00:00)
To: TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830] Re: Brand New TS-830S - A story

What was the point of the 830 Gold as opposed to the "plain" 830?

Kevin

KD0ILM/XV2KM

47456. TS-520 Confusion Over Resistors between RLT and TBL Terminals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-05 17:07:47 UTC
From: Byron
Topic: 47456 Message: 47456

Hello-
Possibly someone can shed some light on this for me. I was going through a TS-520 and found what appears to be a mod. There is a small terminal strip mounted along the edge of the IF board that has a 4.7K variable resistor in parallel with a 4.7K fixed resistor, and these in series with a 2.2K resistor. One end of this combo goes (blue wire) to the terminal TBL on IF deck. The other end goes (red wire) to terminal RLT on the RF board. It appears this is a mod added as the red wire connected to RLT on RF board is soldered instead of wire wrapped. However, the blue from combo is wire-wrapped like factory at terminal TBL on IF board. Plus, there is another factory appearing blue wire that goes from TBL on IF board to TBL on RF board. Although this combo that was added appears as a mod, it is necessary in order to transmit. What confuses me is that some TS-520 schematics show this "mod" and have part numbers assigned to the resistors (R-20, R-21 and VR-11). I have looked at several parts units IF board I have here and some have two blue wires at TBL and one only has one wire at TBL. Since my IF board has two blue wires that appear factory installed at TBL I am wondering where the second blue wire originally went?
Thank you, Byron WA5THJ

47457. RE: New TS530/TS830 Drive Control Drive Sprockets

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-05 17:11:50 UTC
From: <jweigh@...>
Topic: 47445 Message: 47457

Terry, Since I haven't done this before(and will in the future) how does one remedy the tensioners being stretched out (If this is my case) causing an out of sync condition??
Thanks.
73s
Jerry, K4gew

47458. RE: Another 6146W final tube source JAN

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-05 18:14:25 UTC
From: <jweigh@...>
Topic: 47364 Message: 47458

A newbie question, where and how do you find the date code on the tubes? Is it truly a code(the small dots) on the glass or the numbers like 188 5 (yes there is a space) on mine? Thanks for any replies.
Jerry K4GEW

47459. Re: [TS-520_820_530_830] RE: New TS530/TS830 Drive Control Drive Sprockets

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-05 19:17:53 UTC
From: Joseph Stiles
Topic: 47445 Message: 47459

Terry-k9tw & Group,

This is GREAT and, is what this group and ham radio in general is about...using new tech...to keep alive "old" tech!

A big slap on the back to Gregory- NR6C, for the effort!

73 Joe
WB7UQU
Group Co-owner

On Wednesday, February 5, 2014 11:10 AM, "jweigh@aol.com" <jweigh@...> wrote:

>Terry, Since I haven't done this before(and will in the future) how does one remedy the tensioners being stretched out (If this is my case) causing an out of sync condition??
>Thanks.
>73s
>Jerry, K4gew
>
>
>

47460. RE: TS-830s relay

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-05 19:35:24 UTC
From: <davidcuttler@...>
Topic: 47419 Message: 47460

All my spare T/R relays are sold.
I do have some of the rectifier board relays left.

Thanks for all who responded.

David

47461. RE: TS-520 Confusion Over Resistors between RLT and TBL Terminals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-05 19:37:29 UTC
From: <wagstw46@...>
Topic: 47456 Message: 47461

Byron:

It is not a mod just a very early TS520.

Go to Conversations and type in TBL and click on Search Groups. You will find all you want to know about this and how you can change it if you want to. I just dont have the energy to type it all again!

My Yahoo email is down or I could send you some of my notes.

Terry K9TW

47462. RE: Another 6146W final tube source JAN

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-05 19:46:52 UTC
From: James Scribner
Topic: 47364 Message: 47462

Jerry K4GEW
Just checked 4-6146w's I have put back for my TS-820's. To the right of the name label on the tube is a number. On one pair it's written horizontally, one the other it is vertical. Both sets match closely the *boxed*date stamped on the box, ie: 2-79. There is much info on internet about the 6146, 6146A,6146B, 6146W, 8298 as to quality, specs, date of manufacture changes, on so on. Hope this helps.
73
Jim
W5SWM

47463. Yahoo Mail

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-05 22:07:39 UTC
From: <wagstw46@...>
Topic: 47463 Message: 47463

I have about 20 emails in my Yahoo mail from today most of them appear to be off the Forum questions and I cannot open any of them. I have tried logging off and signing back in and rebooting and using Google Chrome, Internet Explorer etc to open them to no avail. I have searched the Yahoo mail help and it discusses what to do if unable to receive or send email but not what to do if cant open those that have been received.

If you need to contact me off the forum do so at wagstw46@aol.com

Sorry but not smart enough to figure out what is going on. Never had this issue before.

Terry K9TW

47464. Re: [TS-520_820_530_830] RE: TS-830s relay

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-05 22:38:38 UTC
From: Mark Gilger
Topic: 47419 Message: 47464

For some reason it does not look like Paypal sent
the first payment. I've just sent you another
one, could you verify that you have only received one payment for $15?

Thanks,
Mark, WB0IQK

At 07:19 PM 2/4/2014, you wrote:
>
>
>I purchased three of them for my 830S and only
>needed one. So if someone wants one, I they can
>have it for $15.00 shipped. It in new not a pull. It worked well in my rig.
>
>I also have the other relay. I forgot which one
>it is but it is a small black cube and I had to
>buy 10 to get one so I have 9 of those too. This
>was when I went through my 830S replacing
>everything that could go wrong in the future.
>
>If you want to contact me please do it off list.
>
>David - KE6YX
>

47465. Meter pegged in IP on transmit on TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-05 22:51:49 UTC
From: <paw_paw44036@...>
Topic: 47465 Message: 47465

Terry,
I am a bit confused here. I had my 830 working fine today and all of a sudden the IP meter pegged on transmit.
My confusion is that I have three different manuals and on the RF board, one shows R-10 as a 10 K another shows it as 6.8K and another shows it as 4.7K
Ken’s big schematic shows 4.7K. This resistor was cracked and I can’t see the first band. I assume that is what made the meter peg as it checks 55k ohm.
Also while I have it apart, I am going to add the transformer saver circuit. I assume the resistors go in series and in series with the 900 volt line. Is this correct?

Bill WD8OSJ

47466. Re: [TS-520_820_530_830] Meter pegged in IP on transmit on TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-05 23:14:23 UTC
From: Jan Servaites
Topic: 47465 Message: 47466

I see R10 (on RF board) as a 470k.
Check your four cathode resistors, I have seen them all blow and the IP needle goes pegged.
I did the glitch resistor mod, and yes the two 4.7 2W resistors are in series, AFTER the filter caps, just like in the Hybrid Tech article picture.
Jan N8CBX

paw_paw44036@... wrote:

>
>
> Terry,
>
> I am a bit confused here. I had my 830 working fine today and all of a
> sudden the IP meter pegged on transmit.
>
> My confusion is that I have three different manuals and on the RF
> board, one shows R-10 as a 10 K another shows it as 6.8K and another
> shows it as 4.7K
>
> Ken’s big schematic shows 4.7K. This resistor was cracked and I can’t
> see the first band. I assume that is what made the meter peg as it
> checks 55k ohm.
>
> Also while I have it apart, I am going to add the transformer saver
> circuit. I assume the resistors go in series and in series with the
> 900 volt line. Is this correct?
>
>
>
>
>
> Bill WD8OSJ
>
>

47467. RE: TS830S Unstable on 10M - no output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-05 22:43:43 UTC
From: <dlacroix@...>
Topic: 46900 Message: 47467

Very much appreciate the advice Terry. One thin I did on that last attempt was bend the back side with the loop down to solder it directly to the board. Hope that didn't warp the contacts out of line.

Dave WB0SD

47468. RE: Meter pegged in IP on transmit on TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 00:00:09 UTC
From: <wagstw46@...>
Topic: 47465 Message: 47468

Bill;

Bill anytime you have an arc over the meter will peg violently as you have 900vdc IR drop across the cathode resistors. This is a meter designed to measure 1.75vdc so imagine applying 900 vdc across it. Actually across it and its series meter multiplier but none the less one hell of a lot of voltage for a moment. R10 wont stop that. It is there to address the jeopardy to the meter after the cathode resistors have blown open.

R10 was a mod by Kenwood to hold the cathode down to ground potential after and arc over event. In the event of a tube arc over and cathode resistors popping open you now have and open cathode and the cathode will try to rise toward Screen grid potential. It will quickly climb to well over 100 vdc (I have measured it). Now with an open cathode after an arc over event and you try to load again and you flip the panel meter selection switch to the IP position you are applying very high voltage across the meter and will peg again and can burn it out. R10 assures that the cathodes of the 6146 finals stay at ground potential after the meter shunts pop open.

Depending on what serial number rig you have it will be a 4.7k to 6.8k ohm resistor. The value is not critical as it only makes about a half a needles width of difference in meter deflection accuracy. It is not the meter multiplier and has nothing to do with using a ua meter movement as a voltmeter. I recommend people put in the value that matches the schematic revision they are using so not confusing if need to troubleshoot. Actually can take R10 out and throw over your shoulder and meter circuit will work just fine.

As I said I have measured the cathode with all the cathode resistors removed and it will rise quickly to over 100 vdc. If R10 is in the circuit you will get no cathode potential rise. There is no equivalent of R10 in the other KW hybrid meter circuit just the series meter multiplier.

If you are going to do any of my protection mods I recommend the 3 diodes in series to protect the meter by limiting the IR drop across the cathode meter shunt resistors to approx 2.1vdc in a fault event. Meter will still peg during the event but not violently.

The only reason I placed the two Type OY glitch resistors in series was because I could not find a single 10 ohm resistor designed for surge current. If we had 3000vdc anode potential then I would have used several resistors in series to spread the leakage path. You can use two 4.7 or 5.6 ohm resistors in series. These are commonly available values. The value is not critical. Just trying to add some impedance in addition to the 5 ohms and whatever the transformer ESR is to limit the fault current. With just 5 ohms you could have 900/5 = 180 amps at moment of the arc over.

We do not want the glitch resistor to pop open (it is not intended to be a fuse) and interrupt the anode voltage. Never want screen grid voltage applied and no anode voltage as screen grid dissipation will be exceeded and tubes destroyed.

The installation of the MOVs is optional as not likely to arc from anode to screen grids. Closest element is the beam forming plate or suppressor which is tied to the cathode so

normal path is from anode to cathode. Is possible to arc to the SG so I added the MOVs.

Terry K9W

47469. RE: TS830S Unstable on 10M - no output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 00:01:38 UTC
From: <wagstw46@...>
Topic: 46900 Message: 47469

I dont think so as the rivet should hold them in alignment. Just have to clean that back side of the loop to brite metal inorder to get a good solder connection to the pc trace.

Terry

47470. Re: [TS-520_820_530_830] Meter pegged in IP on transmit on TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 00:04:03 UTC
From: <wagstw46@...>
Topic: 47465 Message: 47470

R10 is on the Final Board of the TS530 and TS830. A KW redesign of the meter circuit in a feeble attempt to protect the meter. Correct fix is to never allow cathode meter shunts to open. The transformer primary is fused.

Terry K9TW

47471. Re: [TS-520_820_530_830] RE: Meter pegged in IP on transmit on TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 00:30:57 UTC
From: Jan Servaites
Topic: 47465 Message: 47471

"We do not want the glitch resistor to pop open (it is not intended to be a fuse) and interrupt the anode voltage. Never want screen grid voltage applied and no anode voltage as screen grid dissipation will be exceeded and tubes destroyed. "
That is a very GOOD POINT, thanks Terry.
Jan

47472. RE: New TS530/TS830 Drive Control Drive Sprockets

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 00:52:49 UTC
From: <wagstw46@...>
Topic: 47445 Message: 47472

Jerry

Good question and it is very common for one of the chains to be more loose than the others. I have actually places small shim over the drive shaft to raise the shaft out of the saddle of the insulating stanchion and increase the spring tension. I have done that by slipping on a thin plastic bushing or a thin metal bushing over the end of the shaft. Easiest to slip a shim at the output end of the shaft (nearest the PA cage) as the inboard end is coupled. Puts a little angle on the shaft but not a problem.

Only other thing I can suggest is to try to squeeze both sides of the spring wire tensioner device to close up the gap and provide more spring tension. Have to do that with the chains off the sprockets.

If I had to have any chain loose and cause some lag in plate movement it would be on VC-1. I would put my best chains on VC-2 and VC-3 (middle and nearest PA cage) so that the Mixer and Drive coils would be tuned to resonance at same point. This helps ALC indication in Tune mode during rig loading to be less touchy. I dont like for ALC indication to sort of pop in and out or have to go past it and come back to peak it. Prefer more smooth peaking action.

May come a time when will have to come up with miniature springs to replace these tensioners. Whatever you do....do not apply any heat to them. You could heat the spring coil on each side and quench to re-temper but I would be prepared to have to replace.

Terry K9TW

47473. Re: [TS-520_820_530_830] RE: Meter pegged in IP on transmit on TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 00:56:08 UTC
From: <wagstw46@...>
Topic: 47465 Message: 47473

Jan

Lots of guy want the glitch resistor to be sacrificial and will argue this point with you.

These are grounded grid boys who never saw a Tetrode!

I aint so smart just made most of classical mistakes that can be made! Making damn certain dont make the one that you dont get to make more than once!

Terry

47474. TS-530S SSB filter adjustment success!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 01:41:06 UTC
From: Craig Roberts
Topic: 47454 Message: 47474

Easy! I applied my software derived audio generator through my computer soundcard and into my hybrids' mic inputs this evening and it worked a treat.

The 2.4 KHz SSB filter in my 830S and new 2.8 KHz INRAD device in the 530S are now set for best and balanced audio response. I am getting very complimentary on-air transit audio reports to confirm the measurements. (The receiver sounds nice, too).

The point is that I have learned that a $30 piece of software (yes, I actually paid for it) can do the job -- in this case -- of an full fledged, standalone audio generator. I couldn't imagine why this computer aided tool wouldn't work, but it's nice to see it in action.

73 all,

Craig
W3CRR

47475. Re: [TS-520_820_530_830] RE: New TS530/TS830 Drive Control Drive Sprockets

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 01:44:34 UTC
From: <wagstw46@...>
Topic: 47445 Message: 47475

Joe et al:

Yes Gregory deserves all the recognition and our thanks. My role was to just provide a set of original parts that were not cracked and to try the finished product.

In interest of full disclosure I need to say that during the installation and testing I did notice that the chain link had a tendency to snap into the gap at the base of the adjacent teeth as the Drive control is rotated.

When you turn the Drive control knob you can hear and feel this engagement occurring. It in no way affects the ability to peak the ALC indication in receive or transmit. It may become less noticeable as the chain and new sprockets run in with more use. I suspect that it will and depending on the condition of your chain may not occur at all.

I wanted to mention it so no surprises to anyone who buys and installs the new sprockets. I suspect not ever having the opportunity to operate a brand new TS530 or TS830 and only having adjusted the Drive control of those radios that had many rotation cycles on the Drive control that I may be a poor judge of what new and "normal" feel may be.

I am a very happy camper with my new sprockets. May leave the covers off for awhile just to admire them!

Terry K9TW

47476. RE: TS-530S SSB filter adjustment success!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 02:01:20 UTC
From: <wagstw46@...>
Topic: 47454 Message: 47476

Yes this is the precise method that all the KW hybrid service manuals describe.

All you need to know is that the millivolt level at 1200hz to 1500 hz where you set the mic gain for 50 watts output does not vary at all at 300hz and 2700hz because if it does then you have no idea if the 25 watts or where ever the roll off is at is due to the filter response curve or the fact that the generator level is dropping.

My guess is that the mv level is just as accurate as the frequency is. Cant buy a good AF generator for what you invested in that software and I suspect it also gives you 2 tone testing capability which your typical budget AF generator wont. Lastly, you can use it to adjust your VBT oscillator if it has capability of two output channels that can be mixed. If not there is other audio generator software out there that has two output channels.

Terry K9TW

47477. Destroyed TS530 IF Board

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 02:24:44 UTC
From: <wagstw46@...>
Topic: 47477 Message: 47477

Go to ebay and search on this item number.....221366224795.

Realize that R11 470 ohm pi filter resistor is gone. I dont know if filter cap is the event intiator or if dirt/dust tracked from molex connector to ground to become a carbon path. In any event it shows you what the 300 and 210 supplies are capable of.

This is the IF board of a TS530.

Terry K9TW

47478. RE: Destroyed TS530 IF Board

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 02:32:41 UTC
From: <wagstw46@...>
Topic: 47477 Message: 47478

I mis-spoke I meant R111. This resistor is the more talked about 470 ohm resistor on the Rect board on the TS830 but provides the same function (a poor mans power supply filter choke)

Terry K9TW

47479. Re: [TS-520_820_530_830] TS-530S SSB filter adjustment success!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 02:37:07 UTC
From: Jan Servaites
Topic: 47454 Message: 47479

Yes, I was listening to your conversation tonight on 40M, Craig!
You sounded very good. Congratulations.
Jan N8CBX

On 2/5/2014 8:41 PM, Craig Roberts wrote:
>
> Easy! I applied my software derived audio generator through my computer
> soundcard and into my hybrids' mic inputs this evening and it worked a
> treat.
>
> The 2.4 KHz SSB filter in my 830S and new 2.8 KHz INRAD device in the
> 530S are now set for best and balanced audio response. I am getting very
> complimentary on-air transit audio reports to confirm the measurements.
> (The receiver sounds nice, too).
>
> The point is that I have learned that a $30 piece of software (yes, I
> actually paid for it) can do the job -- in this case -- of an full
> fledged, standalone audio generator. I couldn't imagine why this
> computer aided tool wouldn't work, but it's nice to see it in action.
>
> 73 all,
>
> Craig
> W3CRR
>
>

--
N8CBX, Kettering OH

47480. RE: TS-530S SSB filter adjustment success!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 02:28:25 UTC
From: <scottsheppard@...>
Topic: 47454 Message: 47480

Very interesting. I am somewhat new to the hybrids and have been spending the last few days recapping the 820s. I just downloaded an app for 2$ hope my ipad can do the same...did you just feed that to the mic input from the speaker jack? How did you view the output in order to adjust..an osc scope?

73
Scott

47481. Re: [TS-520_820_530_830] TS-530S SSB filter adjustment success!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 04:19:56 UTC
From: Craig Roberts
Topic: 47454 Message: 47481

Terrific, Jan! I love your website. We have several common interests, but we can chat about them in Dayton.

So, who else is going to Dayton? I'll be there helping to man The American Legion Amateur Radio Club booth (our first time at the big hamfest). My hybrids get a workout doing net control duty for our club once a month.
Our next HF net is this coming Sunday, Feb. 9 -- 7.238 MHz @ 2200 UTC, just following our friend Mark, WB0IQK, and his Drake Technical Net buds (including me).

Stop by and say hello!

73,

Craig
W3CRR

47482. Re: [TS-520_820_530_830] RE: TS-530S SSB filter adjustment success!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 05:06:24 UTC
From: Craig Roberts
Topic: 47454 Message: 47482

Hi Scott,

Well, here's what I did:

I purchased, downloaded and installed the NCH Tone Generator software (http://www.nch.com.au/tonegen/). I am not endorsing this particular program, but it suits my needs for radio alignment use plus some other purposes. (I have a small voiceover and narration studio in my home, cohabiting with my radios). As Terry suggested, this program does, indeed, offer sweep tones, simultaneous generation of two or more tones and other useful functions

From the software's setup menu, I configured the NCH Tone Generator to feed the Kenwood's mic jack from one of my computer's USB ports through a SignaLink USB interface. This device has a built-in sound card and allows control of its output level. I could also have connected the radio through my W2IHY iBox from my computer sound card (a trusty old M-audio Delta 44) or directly -- as you suggest -- from the computer speaker jack. I just figured the interfaces would provide a little isolation and a cleaner tone.

For the filter alignment itself, I simply followed the instructions in the TS-530S service manual (Step 24) using my Drake W-4 wattmeter as an output indicator. I tuned the radio up to full output into a dummy load, then switched it to USB mode, injected a 1500 Hz tone and reduced the output to 50 watts. I then switched the tone generator to 300 Hz and checked the output and did the same with a 2700 Hz tone. Alternating the two tones and tweaking the appropriate trimmer, the filter was easily adjusted for equal fall off on both high and low tones. The process was repeated in LSB mode. The whole process took just a few minutes and was quite easy.

In the case of the TS-530S and its new 2.8 KHz SSB filter, the output at 300 Hz and 2700 Hz in both USB and LSB modes was about 23 watts -- a near textbook -3 dB from the original 50 watt at 1500 Hz level.

The proof, of course, is how the transmit audio sounds and, according to a couple of listeners, anyway, the adjustment worked just fine.

I also re-aligned the stock 2.4 KHz SSB filter on my TS-830S. Before alignment, it was pretty good on USB, but LSB was way off with almost no attenuation on the low end (300 Hz) and a great deal of drop off on the high, 2700 Hz side. This explained the reports of "bassy" or "heavy" audio that I had been getting on 40 meters (LSB) as opposed to the good audio reports I usually got on 20 (USB). Adjustment, again, was simple and quick and my USB audio reports should be more flattering now.

Speaking of oscilloscopes, my ancient Navy surplus model is just not up to the job. What I want now is a nifty new PC Oscilloscope! (http://www.picotech.com/oscilloscope.html)

73!

Craig
W3CRR

47483. Motorola 6146Bs

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 12:25:25 UTC
From: W5RKL
Topic: 47483 Message: 47483

There has been some concerns/requests/comments about whether a 6146B sold under the "Motorola" name is any good. First, I do not believe Motorola manufactured 6146Bs. I suspect the 6146B were manufactured by another source then sold under the Motorola name. Consider 6146Bs being sold under the RCA and GE names. Do you think RCA 6146B are any better than GE 6146B, or vice verse? I don't think so so why worry whether a 6146B sold under the Motorola name is any worse or better than a 6146B sold under the RCA or GE names?

73
Mike W5RKL

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http://www.avast.com

47484. Re: [TS-520_820_530_830] RE: TS-530S SSB filter adjustment success!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 12:38:57 UTC
From: <wagstw46@...>
Topic: 47454 Message: 47484

There is nothing magic about 50 watts. You just want to use a low level RF output as you have to have the rig keyed for awhile to make the trimmer adjustments. 50 watts results in about 1/2 IP current during the key down period so not stressing the finals and having to worry about key down for more than couple of seconds. You cant lollygag around but have time to make the adjustments. 50 watts is also easy to remember your starting point and to know that when power has dropped to approx 25 watts you are close to 3dB roll off. Depending on the response curve of your particular filter may or may not be 25 watts.

Now you need to download free copy of Spectrogram and feed the head phone jack output into your lap top line or mic input and actually see the results of your good work!

It is great fun.

Terry K9TW

47485. Re: [TS-520_820_530_830] Meter pegged in IP on transmit on TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 12:56:06 UTC
From: <paw_paw44036@...>
Topic: 47465 Message: 47485

Like I said, I was confused and your right, it is the final board. My mistake. Sorry. I took a chance and put in a 6.8 as it was in the middle of the range of the three schematics. Everything seems to be working ok. Cathode resistors check 5.3 ohm. The only resistor that was high was R10. Just for the heck of it, is there away to use a DVM to check the current and to verify that the meter is telling me what is really there? It loads up fine at 100 watts on all bands except 10 meters which is 85 watts. But the meter reads 275 ma at full load and will not dip below that without losing power output. if I back the drive down to 225 ma it only outputs 75 watts on my Bird 43 meter. I question the meters accuracy. I see on the AF unit that there is a cap and resistor tied to the relay and meter and a cap across the meter. If anyone of these fail, could it render the meter inaccurate? Bill WD8OSJ Serial # 3080247 built in 1982. Gold label.

47486. Re: [TS-520_820_530_830] RE: TS-530S SSB filter adjustment success!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 14:02:00 UTC
From: Mark Gilger
Topic: 47454 Message: 47486

Important thing about the 50 watts is you want to
make sure the AGC has not active. If it is, you
need to lower the 50 watts to a lower setting so
the AGC is not having an effect and skewing the results.

Mark, WB0IQK

At 07:38 AM 2/6/2014, wagstw46@... wrote:
>
>
>There is nothing magic about 50 watts. You just
>want to use a low level RF output as you have to
>have the rig keyed for awhile to make the
>trimmer adjustments. 50 watts results in about
>1/2 IP current during the key down period so not
>stressing the finals and having to worry about
>key down for more than couple of seconds. You
>cant lollygag around but have time to make the
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>your starting point and to know that when power
>has dropped to approx 25 watts you are close to
>3dB roll off. Depending on the response curve of
>your particular filter may or may not be 25 watts.
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>
>Now you need to download free copy of
>Spectrogram and feed the head phone jack output
>into your lap top line or mic input and actually
>see the results of your good work!
>
>
>It is great fun.
>
>
>Terry K9TW
>

47487. Re: [TS-520_820_530_830] TS-530S SSB filter adjustment success!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 14:02:54 UTC
From: Mark Gilger
Topic: 47454 Message: 47487

I'll be there as always from Thursday to sometime
Saturday afternoon. Always enjoy it.

Mark, WB0IQK

At 11:19 PM 2/5/2014, Craig Roberts wrote:
>
>
>Terrific, Jan! I love your website. We have several common interests,
>but we can chat about them in Dayton.
>
>So, who else is going to Dayton? I'll be there helping to man The
>American Legion Amateur Radio Club booth (our first time at the big
>hamfest). My hybrids get a workout doing net control duty for our club
>once a month.
>Our next HF net is this coming Sunday, Feb. 9 -- 7.238 MHz @ 2200 UTC,
>just following our friend Mark, WB0IQK, and his Drake Technical Net buds
>(including me).
>
>Stop by and say hello!
>
>73,
>
>Craig
>W3CRR
>

47488. Re: [TS-520_820_530_830] TS-530S SSB filter adjustment success!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 14:24:15 UTC
From: <wagstw46@...>
Topic: 47454 Message: 47488

Mark

I am looking at rooms now. Spoke to my oldest boy Gordon who came with me 2 years ago and he is game and I promised him he wont have to lug any boatanchors back to the car (wink wink). We can all exchange cell phone numbers like we did last time.

I will let you know if I am coming for certain. Dick tells me he and his son are also planning to come again.

Terry K9TW

47489. Re: [TS-520_820_530_830] TS-530S SSB filter adjustment success!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 14:30:26 UTC
From: Mark Gilger
Topic: 47454 Message: 47489

You know what would really be great is if someone
arranged to have a Kenwood forum at Dayton, say in 2015.

I'm part of the group that puts together the
Drake forum and we always have a full house,
which is typically 100+. Last year we estimated
it was maybe 125. Wouldn't it be great to get
something going for the Kenwood Hybrid guys?

Volunteers?

Mark, WB0IQK

At 09:02 AM 2/6/2014, Mark Gilger wrote:
>
>
>I'll be there as always from Thursday to
>sometime Saturday afternoon. Always enjoy it.
>
>Mark, WB0IQK
>
>At 11:19 PM 2/5/2014, Craig Roberts wrote:
>>
>>
>>Terrific, Jan! I love your website. We have several common interests,
>>but we can chat about them in Dayton.
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>>American Legion Amateur Radio Club booth (our first time at the big
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>>(including me).
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>>73,
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>>Craig
>>W3CRR
>
>

47490. Re: [TS-520_820_530_830] TS-530S SSB filter adjustment success!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 14:32:41 UTC
From: Mark Gilger
Topic: 47454 Message: 47490

I decided to stay down south this year as the
rates were about $40-$50 less a night. I think
I'm paying something like $50 a night as I
recall. For a 2 night stay, the savings can go a long way in the flea market.

I'm staying at the Red Roof in Middletown.

Mark

At 09:24 AM 2/6/2014, wagstw46@yahoo.com wrote:
>
>
>Mark
>
>
>I am looking at rooms now. Spoke to my oldest
>boy Gordon who came with me 2 years ago and he
>is game and I promised him he wont have to lug
>any boatanchors back to the car (wink wink). We
>can all exchange cell phone numbers like we did last time.
>
>
>I will let you know if I am coming for certain.
>Dick tells me he and his son are also planning to come again.
>
>
>Terry K9TW
>

47491. Re: [TS-520_820_530_830] RE: TS-530S SSB filter adjustment success!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 14:40:33 UTC
From: <wagstw46@...>
Topic: 47454 Message: 47491

I think you mean ALC and I would rather have full ALC indication so I know the ALC bus voltage is being pulled down to a constant level.

You are correct you sure dont want the TIF amp output to be varying while you are varying AF sig gen output frequency.

At 50 watts you can be pretty assured that the ALC bus voltage will be pulled down from 3.6vdc (RF-1 level) to around 2.3vdc to 2.6vdc. Need a high Z meter like a HP-410C to measure it. I have looked at it during this test and and it doesnt vary as you go from 300hz to 2700hz. This is why the procedure in the Service Manual doesnt mention anything about ALC control bus voltage must remain constant. They assure that by using high enough output power level.

There is one thing you could do if concerned about any ALC action and that is apply 3vdc from couple of flashlite batteries to the ALC molex pin connector. This would be a low Z power supply and would set the TIF amp gain regardless of what the ALC Hi-Z power supply does.

So Mark your are correct more than one reason to use approx 50 watts. Less stress on Finals and to be assured that ALC bus voltage isnt varying which would vary the rf drive and output power level.

If anyone wants to set the Carrier point using this method just follow the Service Manual steps as written and you will be just fine assuming you have a good stable AF sig gen.

Terry K9TW

47492. Re: [TS-520_820_530_830] RE: TS-530S SSB filter adjustment success!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 15:00:32 UTC
From: Mark Gilger
Topic: 47454 Message: 47492

I've replied to Craig, off line, about the 2.8khz
filter verses the 2.4khz stock filter when it
comes to adjusting the tones per step #24 in the manual.

I think that procedure needs to be slightly
modified to take advantage of the wider filter.

Mark

At 09:40 AM 2/6/2014, wagstw46@... wrote:
>
>
>I think you mean ALC and I would rather have
>full ALC indication so I know the ALC bus
>voltage is being pulled down to a constant level.
>
>
>You are correct you sure dont want the TIF amp
>output to be varying while you are varying AF sig gen output frequency.
>
>
>At 50 watts you can be pretty assured that the
>ALC bus voltage will be pulled down from 3.6vdc
>(RF-1 level) to around 2.3vdc to 2.6vdc. Need a
>high Z meter like a HP-410C to measure it. I
>have looked at it during this test and and it
>doesnt vary as you go from 300hz to
>2700hz. This is why the procedure in the
>Service Manual doesnt mention anything about ALC
>control bus voltage must remain constant. They
>assure that by using high enough output power level.
>
>
>There is one thing you could do if concerned
>about any ALC action and that is apply 3vdc from
>couple of flashlite batteries to the ALC molex
>pin connector. This would be a low Z power
>supply and would set the TIF amp gain regardless
>of what the ALC Hi-Z power supply does.
>
>
>So Mark your are correct more than one reason to
>use approx 50 watts. Less stress on Finals and
>to be assured that ALC bus voltage isnt varying
>which would vary the rf drive and output power level.
>

>
>If anyone wants to set the Carrier point using
>this method just follow the Service Manual steps
>as written and you will be just fine assuming
>you have a good stable AF sig gen.
>
>
>Terry K9TW
><
>

47493. Re: [TS-520_820_530_830] TS-530S SSB filter adjustment success!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 15:06:06 UTC
From: <wagstw46@...>
Topic: 47454 Message: 47493

We stayed at Franklin and it wasnt a bad run at all in the morning.

Will look into Middleton.

Terry K9TW

47494. Re: [TS-520_820_530_830] Meter pegged in IP on transmit on TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 15:07:40 UTC
From: <wagstw46@...>
Topic: 47465 Message: 47494

The higher the cathode resistors go the meter will read the IP current false high. This is a conservative failure.

Yes you can read the voltage drop across the cathode resistors with your DMM. The accuracy of the meter is also dependent on the series meter multiplier resistor. You can use a 1% there but kind of silly as can only read reasonably accurate to half a meter division. The resistor to measure is R6 2.7k. It seldom is a problem. It is a 5% unit.

The way this works is you are using a 500 ua meter movement and adding a series multiplier and converting it into a voltmeter (same as what is going on inside your VTVM or VOM) to read IR drop across the cathode meter shunt resistors.

This meter is a 500ua movement with 800 ohms internal resistance. This means full scale deflection is E = IR or E= 500ua x 800 = 0.40vdc for full scale deflection. To make it read higher voltage you need to place a resistor in series with it to drop any voltage greater than .4vdc across.

At 350ma the drop across the cathode resistors is E= .350 x 5 = 1.75vdc. So with the meter on Ip and reading FSD there is 1.75vdc from cathode to ground.

This means .4vdc across the meter and 500ua flowing thru the meter movement and the R6 series multiplier. 1.35vdc will be dropped across R6.

At 225ma there will be E = .225 x 5 = 1.125vdc dropped across the cathode resistors.

The capacitor and resistor you are talking about is to address the meter damping or dampening. All meter movements have "ballistic" characteristics. You dont want the needle to overshoot, oscillate, or flutter at the indicating point. You want it to settle there pretty quickly.

They do employ various forms of mechanical dampening. However , what KW did was use a RC circuit to to electrically dampen the movement. The moving coil actually acts like a mini-generator so adding external RC time constant can dampen the movement overshoot oscillation time constant. I doubt anything wrong with that circuit. The cap across the meter is an Rf bypass.

Just check R6 and make sure it is close to 2.7k ohms.

Terry K9TW

47495. Re: [TS-520_820_530_830] RE: TS-530S SSB filter adjustment success!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 15:47:03 UTC
From: <wagstw46@...>
Topic: 47454 Message: 47495

You simply run the AF generator frequency up and down to see where the 3 db roll off for a given filter is at and adjust the trimmers to where you want to place the Carrier Osc at. Some prefer to set it for more Bass and some for more Treble and some split the difference. You are not locked at stopping at 300hz and 2700hz or 400hz and 2600hz as noted in the service manual. The wattmeter will tell you where the roll off is at.

You can make a chart for your filter and even graph the response curve. I have done that by swinging the AF gen from approx 50hz to 4khz. At approx 50hz and 3300hz no rf output. At -12dB I see approx 170hz and 2850hz with a YK88-S1 installed.

Of course when done you still have to decide if it sounds good to your ear. I prefer more communications audio and not the classic KW bass audio so I adjust the trimmers for more highs presence. Running barefoot and chasing some DX I think it helps me.

Terry K9TW

47496. Re: [TS-520_820_530_830] TS-530S SSB filter adjustment success!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 15:53:47 UTC
From: <wagstw46@...>
Topic: 47454 Message: 47496

Would you envision it being a Q&A session or some power point presentations or both?

Maybe get Jan to give presentation on SDR and L-pan interface with KW hybrids? Maybe Dick present band switch repair?

Might be interesting if could demonstrate how to load a KW hybrid. Lots of confusion and voodoo stuff going on there, but not sure how would project that so all could see.

I would participate in a Q & A panel. Some risk of speaking from memory. Nice to have the reference documents at the ready. I suppose could access on line via lap top or bring hard copy.

Terry K9TW

47497. Re: [TS-520_820_530_830] Motorola 6146Bs

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 12:47:10 UTC
From: Byron Tatum
Topic: 47483 Message: 47497

Regarding Motorola Tubes-
I have found over the years that Motorola branded tubes have been, for the very large part,very high quality tubes, being made mostly by RCA and GE. I have several hybrid sets with Motorola branded 8298A tubes. These were RCA made 6146B's and some very good tubes.
Thanks, Byron WA5THJ

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47498. RE: Motorola 6146Bs

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 13:19:46 UTC
From: <glene77is@...>
Topic: 47483 Message: 47498

Mike W5RKL

What is the criteria for determining if a 6146 is 'good' or not or somewhere in-between.
Is it the ability to perform at 100% EPO ?

I cranked the TS830 up to 150W EPO , mode CW, measured on my Ant Tuner, one time.
The only way I could determine if that usage would work in the long run
is by a method known as "Destructive Testing", ie, run it until it fails !

I am suggesting that
there should be some other method of determining if a 6146 is 'good' or what.

I am NOT suggesting that Knwd users run their rigs
at 5 W normal and 10 W in noise.

I am suggesting that Knwd users run their rigs
at 60 %, aprox. 100 W normally.

Using these requirements, 'any' 6146 should last a long time.

Comments ?

Glen KK4LPG

---In TS-520_820_530_830@yahoogroups.com, <w5rkl@...> wrote:

There has been some concerns/requests/comments about whether a 6146B sold under the "Motorola" name is any good. First, I do not believe Motorola manufactured 6146Bs. I suspect the 6146B were manufactured by another source then sold under the Motorola name. Consider 6146Bs being sold under the RCA and GE names. Do you think RCA 6146B are any better than GE 6146B, or vice verse? I don't think so so why worry whether a 6146B sold under the Motorola name is any worse or better than a 6146B sold under the RCA or GE names?

73
Mike W5RKL

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47499. Re: [TS-520_820_530_830] Meter pegged in IP on transmit on TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 16:29:56 UTC
From: <paw_paw44036@...>
Topic: 47465 Message: 47499

Terry,
The 2.7 ohm checks at 2.69 ohm on my Fluke 27 meter. At 5% I would say that is good. The four cathode resistors check 5.6 ohms so I would say they are ok. The only resistor I found high was the R 10 at 55 k ohm.
I replaced it with a 6.8 k and all seems to be working. I clipped a 10k pot across R-10 and I can vary the meter reading by 65 ma reading It seems that this is a voltage divider circuit. I will tune it up again and set the IP reading for 225ma and see what the voltage is. This should tell me if it is accurate using your figures.
Bill WD8OSJ.

47500. Re: [TS-520_820_530_830] RE: Motorola 6146Bs

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 16:43:36 UTC
From: W5RKL
Topic: 47483 Message: 47500

Glen,

I doubt hams have the equipment to accurately test vacuum tubes and provide an accurate answer to your question. A tube tester won't provide an accurate answer either.

If you ran your 6146s up to 150 watts "output" you were over stressing the KW power supplies. The KW hybrid final amplifier and power supplies are not designed for power output levels that high. I also suspect the 6146 screen current most likely had exceeded it's maximum rating of 12ma per tube at that power level, not a good thing to do.

The typical maximum efficiency of the KW hybrid's Class AB1 final amplifier is 60% which for the 830, for example, which has a 180 watt DC input power rating, the 830's typical output power will be 108 watts (180 x .6 = 108) when not pushed for those few extra useless watts output.

The "typical" RCA and GE recommended maximum Plate and Screen voltages and current specifications for 6146B operating in ICAS Class AB1 RF amplifier, are:

Plate voltage = 750VDC
Screen voltage = 250VDC
Plate current = 220ma
Screen dissipation = 3 watts or 12ma each tube (3 / 250 = .012)

KW runs their Plate voltage to the 6146Bs a bit higher, approximately 175VDC higher than the RCA and GE recommended maximum rated plate voltage specifications.

Heathkit designed their ICAS Class AB1 6146 based final amplifiers with plate voltages of approximately +820VDC from their HP/PS 23 power supplies. My SB-100 which has a pair of 6146As, when tuned up into a 50 ohm dummy load for maximum input power, the grid current is at 2.5ma per tube (5ma total),)grid current remains stable), and plate current is at approximately 225ma with 730VDC plate voltage which equates to approximately 165 watts DC input and approximately 98.5 watts "output" (60% efficiency) to the antenna/tuner. No need to push for more power, 98 watts is more than enough to work anyone I can hear. I work into Japan with a simple 40 meter inverted vee up 25 feet and 98 watts output. I have an AL-811 (3 tube version) but I don't use it that often, don't need it.

Mike W5RKL

On 2/6/2014 7:19 AM, glene77is@... wrote:
>

> Mike W5RKL
>
> What is the criteria for determining if a 6146 is 'good' or not or
> somewhere in-between.
>
> Is it the ability to perform at 100% EPO ?
>
>
> I cranked the TS830 up to 150W EPO , mode CW, measured on my Ant
> Tuner, one time.
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> I am suggesting that
>
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> I am NOT suggesting that Knwd users run their rigs
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>
>
> Comments ?
>
>
> Glen KK4LPG
>
>
>
>
>
> ---In TS-520_820_530_830@yahoogroups.com, <w5rkl@...> wrote:
>
> There has been some concerns/requests/comments about whether a 6146B
> sold under the "Motorola" name is any good. First, I do not believe
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> another source then sold under the Motorola name. Consider 6146Bs
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> better than GE 6146B, or vice verse? I don't think so so why worry
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>
> 73
> Mike W5RKL
>
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47501. Re: [TS-520_820_530_830] Meter pegged in IP on transmit on TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 17:07:49 UTC
From: <wagstw46@...>
Topic: 47465 Message: 47501

Well of course it did. You cant do that!

You cannot clip a 10k pot across R10 and not effect the meter accuracy.

You dont understand what R10 does. R10 is in parallel with the 5 ohm cathode resistors and there to take their place when/if they pop open. It is not a calibration divider resistor. The value of R10 was selected to give a low enough impedance to ground to prevent the cathode from rising toward screen grid potential. If its value is too high it will be less effective for that function. If its value is too low it lowers the value of the 5 ohm cathode resistors affecting the accuracy of the meter as you found out by applying low value pot across it.

R10 is in series with the meter multiplier R6 and in parallel with the cathode resistors when you move the panel meter switch off the IP position. The combo of R6 and R10 in series to ground keeps cathode voltage low and not rising toward SG voltage.

This is simple ohms law for parallel resistors. 5 ohms in parallel with 4.7k + 2.7 ohms = 5 x 7400 / 7405 = 4.9966 ohms. So you see adding a 4.7k resistor in shunt with the cathode resistors has virtually no effect on Ip accuracy.

The minute you place a low value pot across R10 and lower the resistance that is in parallel with those cathode resistors of course you will vary the Ip meter indication. It is simple ohms law.

Always better if R10 fails high in value as Ip will remain accurate. Just wont have meter protection if cathode resistors fails open and you dont have the meter in the Ip position to keep it pulled down thru the meter. If the meter is left in the IP position after an arc over event then cathode will not rise toward screen grid voltage as meter movement 800 ohms will hold it down (actually 3500 ohms from 800 ohms plus R6) . However it could be in ALC or maybe RF position when the event occurs. At that time you will have greater than 100vdc on the cathode and the moment you switch back to IP position your meter isnt going to like it assuming it survived the initial arc over event. So challenge for KW engineer is what value resistor to keep cathode potential rise low while not affecting meter accuracy.

You are not the first person who thinks R10 is involved and required to calibrate the meter. As I said go look at the other meter circuits and you will see a meter multiplier and no R10. As I have said the reason you see different R10 values is KW was trying to get as low an impedance as it could to hold the cathode voltage down without adversely affecting the accuracy of the panel meter by lowering the combined value of it and the cathode resistors much below 5 ohms.

If you want to bread board this take four 20 ohm resistors and place in parallel and then take a 1 meg pot and place across them and then vary the pot and monitor the 5.00 ohms and see how low you can go on the pot before the 5.00 ohms is lowered. There are some old rules of thumb for paralleling resistors. Some say 20x but that is too low a ratio for this application. I think 1000x would be OK as that results in 4.975 ohms. KW messed around and ended up with approx 1500x ratio.

By the way if you install the 3 series diodes and clamp the cathode potential rise to approx 2.1vdc then you can throw R10 away and not have to worry about blowing cathode resistors and switching the meter back to Ip position and closing in on 100vdc plus. I leave R10 after installing the diode protection to keep the rig to factory config, even though it now serves no function.

Terry K9TW

47502. Re: [TS-520_820_530_830] RE: Motorola 6146Bs

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 17:36:55 UTC
From: <wagstw46@...>
Topic: 47483 Message: 47502

Mike is of course correct. I have only seen one or two KW hybrids that could produce 150 watt output and those had mods to the Screen grid voltage.

I realize you said "just one time" But as Mike states not a good thing to do to the tubes or the power supply.

If your rig is stock I suspect your wattmeter is not accurate.

If watt meter is accurate you may want to open up PA cage and take a look at your main RF plate choke to make sure it is not discolored and if you feel comfortable load into dummy load and measure your Screen Grid voltage.

100 watts output into good antenna and can work the world as Mikes operating experience confirms. Remember for a full S-unit on the receiving end you need to increase output power 4X.

Short key down times, loading to no more than the max Ip that is listed in your particular manual, and not running high duty cycle modes without reducing IP accordingly should result in many years of final tube life.

Terry K9TW

47503. Re: [TS-520_820_530_830] RE: Motorola 6146Bs

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 17:50:29 UTC
From: <wagstw46@...>
Topic: 47483 Message: 47503

I forgot to mention I like to rotate spare 6146 finals in and out from time to time. In my experience letting 30 plus year old finals sit on the shelf expecting that they will be viable spares when you have to reach for them has not been a good experience for me.

Terry K9TW

47504. Re: [TS-520_820_530_830] Motorola 6146Bs

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 12:35:23 UTC
From: Michael Sylvester
Topic: 47483 Message: 47504

That's what I suspected. I think a month or so ago it was mentioned that there were once 2 or 3 tube factories (factories in America?) that were making tubes for several brand names. Not having seen or heard of ANY Motorola 6146 tubes I had reservations about purchasing an unknown product with no known history.
Thanks for that observation Mike.
I'm trying to keep to something that doesn't resemble a budget, needing a quantity of 6146 I've been shopping around.
Buying test gear, busted radios and parts for those is keeping me busted so I'm always looking for a bargain.
Like relays for $7.50 instead of $43 or even $70!!
Have a super day Gentlemen, stay on the warm side of the door!

Michael///KD0WSJ

this msg/post edited as it contained already posted material - WB7UQU

This email is free from viruses and malware because avast! Antivirus http://www.avast.com/ protection is active.

47505. Re: [TS-520_820_530_830] RE: Another 6146W final tube source JAN

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 04:29:59 UTC
From: Michael Sylvester
Topic: 47364 Message: 47505

I don't believe my question from days ago has been answered by anyone.
If so, sorry, mighta missed it.

I asked if anyone has any experience with Motorola 6146, I think he said B's.
Found a few for not too much $$ but have no knowledge of those.

Any one have any idea of their value? Any good in our rigs?

Any experience at all? Rumors, propaganda even.....
Need to pick up some tubes quick. Price is right and they are going quick.
Thanks!

Michael///KD0WSJ

this msg/post edited as it contained already posted materal - WB7UQU

47506. Re: [TS-520_820_530_830] Meter pegged in IP on transmit on TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 18:25:06 UTC
From: <paw_paw44036@...>
Topic: 47465 Message: 47506

I understand what you are saying. Just seems funny that that was the only resistor that was out of value and after changing it things return to normal so to say. Only thing now is that to max power peaks at 275 ma at 110 watts out on 14,175. I was before this happened always around 230 -235 ma before it pegged the meter. I added all the mods you showed in the 3 pictures and I will put it back inline tomorrow to see what happens.
Bill WD8OSJ.

47507. Re: [TS-520_820_530_830] Meter pegged in IP on transmit on TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 19:03:31 UTC
From: <wagstw46@...>
Topic: 47465 Message: 47507

Bill

The higher that R10 goes the less effect it has on the parallel combinaton. So if R10 was at 55k ohm then it should not have affected your IP accuracy. Very unusual for R10 to go high in value. I think you said that R6 is within tolerance and was not changed out. I hope that the meter movement hasnt been hurt.

Lets review.

1. You measured cathode resistors at 5.0 ohms or very close to that with R10 removed. The cathode resistors did not pop open. Only thing that occurred is the meter pegged. Did it peg while switched to the Ip position? Sometimes it will peg because you have lost operating bias to the control grids. If you lose operating bias momentarily the meter will peg violently. Were you trying to set the resting plate current or had you just done that? Can you still set the resting plate current to 60ma?

2. You measured R6 at 2.7k ohm or very close to that.

3. You have now installed a 4.7k ohm R10. So if you read from cathode to chassis ground do you read something just under 5 ohms? Should read lower than what you read in Step 1 above.

4. If so then you know the cathode meter shunt portion is good and to spec. So what else is in the circuit?You have the meter switch contact resistance, the internal resistance of the meter (approx 800 ohms and do not try to measure it with an ohmmeter). If you have a good variable low voltage dc source that you can control its output voltage up to 0.40vdc you can connect it across the meter and see if it deflects to 350ma. You can clip on to the black and red meter terminals at rear of meter and apply 0.40vdc. Just have to be damn careful if your voltage adjust is touchy and possible to jump from 0.40vdc to a high dc voltage easily.

5. As I mentioned you have the contacts of the meter selection switch and they dont often go bad. You have the contacts of the Flat Pack RL-1 and they do go high. You have the contacts of the molex pin interface at Connector 7 on AF board.

6. With the rig down powered if you measure from Cathode pin of 6146 tube socket what resistance do you have now?

Tell me again what you were doing when the meter pegged.

Terry K9TW

47508. Re: [TS-520_820_530_830] Meter pegged in IP on transmit on TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 20:10:43 UTC
From: W5RKL
Topic: 47465 Message: 47508

I made a video that discusses series/parallel resistance circuits. The serious/parallel circuit in the video is very simple and similar to the 830 metering circuit except the source voltage is 12VDC and the resistor values are different. The video can be found at the following link:

http://www.n6wk.com/w5rkl/Basic%20Ohms%20Law/Series%20Parallel%20resistors.wmv

You can change the source voltage to equal what ever the cathode voltage is. Next you change the values of R1 to 2.7K, R2 to either 4.7K or 6.8K, and R3 to the meter resistance which is approximately 800 ohms. The cathode resistors are assumed to be 5 ohms. The rest follows the video.

Perform the calculation twice, once with R2 of 4.7K then again with R2 of 6.8K to see the differences based on different values of R2.

73
Mike W5RKL

On 2/6/2014 12:25 PM, paw_paw44036@... wrote:
>
> I understand what you are saying. Just seems funny that that was the
> only resistor that was out of value and after changing it things
> return to normal so to say. Only thing now is that to max power peaks
> at 275 ma at 110 watts out on 14,175. I was before this happened
> always around 230 -235 ma before it pegged the meter. I added all the
> mods you showed in the 3 pictures and I will put it back inline
> tomorrow to see what happens.
>
> Bill WD8OSJ.
>
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

47509. Email working again

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 21:50:03 UTC
From: <wagstw46@...>
Topic: 47509 Message: 47509

I can now open and read the emails in my Yahoo mail box. I just got a response from the Yahoo help desk stating they could find no problems with my account. Humorously they sent it to my Yahoo email and not my AOL email as I had requested when I submitted the trouble ticket. Wonder how I was suppose to read their response given the problem was I could not open any mail in my Yahoo in box!

Me thinks they must have done something? Anyway back in business.

Terry K9TW

47510. Re: [TS-520_820_530_830] TS-530S SSB filter adjustment success!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 21:54:25 UTC
From: Mark Gilger
Topic: 47454 Message: 47510

Lap tops is included in each room with access to the outside world if needed.

For reference, our Drake forum does not need to
use wifi and I simply rely on power point presentation.

I think all those suggestions Terry made are
great. The Q&A session has alway been good and
can occupy by itself 15+ minutes. Maybe Jan is
even a member of the Dayton group and could be
the front man to get us a spot? What say Jan???

Last year, just after Dayton, I did in fact email
the Dayton group asking if it would be possible
to get a room for just this reason. I never got
an answer, so kind of forgot about it until just
now as I was starting preparing the slides for
this year's Drake forum. Sure be nice to know
someone on the inside, as email does not seem to
work, even when the email address was what was
specified the correct one to use for this purpose. Oh well.....

If anyone is interested in viewing the Drake
slides, they are posted on Ron's web page. The
last one's posted are from 2010.

http://wb4hfn.com/DRAKE/DrakeHamvention/2010/Dayton2010-Menu.htm

Mark

At 10:53 AM 2/6/2014, wagstw46@... wrote:
>
>
>Would you envision it being a Q&A session or
>some power point presentations or both?
>
>
>Maybe get Jan to give presentation on SDR and
>L-pan interface with KW hybrids? Maybe Dick present band switch repair?
>
>
>Might be interesting if could demonstrate how to
>load a KW hybrid. Lots of confusion and voodoo
>stuff going on there, but not sure how would project that so all could see.
>
>
>I would participate in a Q & A panel. Some risk
>of speaking from memory. Nice to have the

>reference documents at the ready. I suppose
>could access on line via lap top or bring hard copy.
>
>
>Terry K9TW
>

47511. 830 parts and accessories

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 21:50:20 UTC
From: <marvinkleek@...>
Topic: 47511 Message: 47511

My TS 830 is gone and I have some accessories I would like to dispose of.

1. The matching SP 230 speaker in perfect condition. $75 plus @10 shipping.
2. YK88-C 500 hz crystal filter. New, in box. $60 including shipping.
3. Kenwood MC-80 mic. $50 plus $10 shipping.
4, RL-1 relay - New, in K4EAA bag. $15 incl. shipping.
5. 2 Omron MX-2P relays (I know one of them is good, but not sure about the other. I can't remember which one is which, so will sell as a pair for best offer).
Paypal preferred. Contact me offline Marvinkleek@hotmail.com
mailto:Marvinkleek@hotmail.com

73 and thanks. Jim W4ANE

47512. Re: [TS-520_820_530_830] RE: TS-530S SSB filter adjustment success!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 21:59:37 UTC
From: Mark Gilger
Topic: 47454 Message: 47512

My suggestion to Craig was to use the existing
procedure, but change the 2700hz reference to
3100hz. That would center the passband in the
middle of the filter. Your point is valid, but to
keep the procedure correct as specified in the
manual I thought the 2700 should be changed to 3100hz as a starting point.

If a person wanted more base maybe do something
like: 200hz - 3000hz, or even 100hz - 2900hz,
which is a bandwidth of 2.8khz which matches the INRAD filter.

Mark, WB0IQK

At 10:47 AM 2/6/2014, wagstw46@yahoo.com wrote:
>
>
>You simply run the AF generator frequency up and
>down to see where the 3 db roll off for a given
>filter is at and adjust the trimmers to where
>you want to place the Carrier Osc at. Some
>prefer to set it for more Bass and some for more
>Treble and some split the difference. You are
>not locked at stopping at 300hz and 2700hz or
>400hz and 2600hz as noted in the service manual.
>The wattmeter will tell you where the roll off is at.
>
>
>You can make a chart for your filter and even
>graph the response curve. I have done that by
>swinging the AF gen from approx 50hz to 4khz. At
>approx 50hz and 3300hz no rf output. At -12dB I
>see approx 170hz and 2850hz with a YK88-S1 installed.
>
>
>Of course when done you still have to decide if
>it sounds good to your ear. I prefer more
>communications audio and not the classic KW bass
>audio so I adjust the trimmers for more highs
>presence. Running barefoot and chasing some DX I think it helps me.
>
>
>Terry K9TW
>

47513. Re: Destroyed TS530 IF Board

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 22:04:42 UTC
From: Chris Kepus
Topic: 47477 Message: 47513

Terry,

Man, that's a mess!!

Is the moral of the story..keep your boards clean and recap the LV supplies also! ?

73,

Chris W7JPG

"Any day above ground is a good day"

[Non-text portions of this message have been removed]

47514. Re: [TS-520_820_530_830] TS-530S SSB filter adjustment success!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 22:06:07 UTC
From: Mark Gilger
Topic: 47454 Message: 47514

P.S.

Another interesting idea what be what's been
going on with the discussion of the new 2.8khz
filter that Craig added to his TS-530. Be a good
discussion if we had sweep generator data to
display the pro's and con's..... Etc.... Craig
might be willing to talk on that one.

Mark

At 04:54 PM 2/6/2014, Mark Gilger wrote:
>
>
>Lap tops is included in each room with access to
>the outside world if needed.
>
>For reference, our Drake forum does not need to
>use wifi and I simply rely on power point presentation.
>
>I think all those suggestions Terry made are
>great. The Q&A session has alway been good and
>can occupy by itself 15+ minutes. Maybe Jan is
>even a member of the Dayton group and could be
>the front man to get us a spot? What say Jan???
>
>Last year, just after Dayton, I did in fact
>email the Dayton group asking if it would be
>possible to get a room for just this reason. I
>never got an answer, so kind of forgot about it
>until just now as I was starting preparing the
>slides for this year's Drake forum. Sure be
>nice to know someone on the inside, as email
>does not seem to work, even when the email
>address was what was specified the correct one
>to use for this purpose. Oh well.....
>
>If anyone is interested in viewing the Drake
>slides, they are posted on Ron's web page. The
>last one's posted are from 2010.
>
>http://wb4hfn.com/DRAKE/DrakeHamvention/2010/Dayton2010-Menu.htm
>
>Mark
>
>At 10:53 AM 2/6/2014, wagstw46@... wrote:

>>
>>
>>Would you envision it being a Q&A session or
>>some power point presentations or both?
>>
>>
>>Maybe get Jan to give presentation on SDR and
>>L-pan interface with KW hybrids? Maybe Dick present band switch repair?
>>
>>
>>Might be interesting if could demonstrate how
>>to load a KW hybrid. Lots of confusion and
>>voodoo stuff going on there, but not sure how
>>would project that so all could see.
>>
>>
>>I would participate in a Q & A panel. Some risk
>>of speaking from memory. Nice to have the
>>reference documents at the ready. I suppose
>>could access on line via lap top or bring hard copy.
>>
>>
>>Terry K9TW
>
>

47515. Re: [TS-520_820_530_830] Re: Destroyed TS530 IF Board

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 22:08:47 UTC
From: Gordon JC Pearce
Topic: 47477 Message: 47515

On Thu, Feb 06, 2014 at 02:04:42PM -0800, Chris Kepus wrote:
> Terry,
>
> Man, that's a mess!!
>
> Is the moral of the story..keep your boards clean and recap the LV supplies
> also! ?
>

Ah, "recapping", the number one way to destroy perfectly good equipment.

When people bring stuff that has been "re-capped" to me for the inevitable repairs and reconstruction, I give them two choices - take it away or toss it straight in the e-waste bin.

--
Gordonjcp MM0YEQ

47516. Re: [TS-520_820_530_830] RE: TS-530S SSB filter adjustment success!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 22:33:23 UTC
From: <wagstw46@...>
Topic: 47454 Message: 47516

Mark

Yes that is fine approach and would have to adjust depending on the particular after market filter characteristics. I am going to see if this NCH software has a demo. I want to make sure I can swing the output frequency and not just step it up or down.

Rooms were sold out in Franklin. I am staying about 6 miles North now at Holiday Inn Express near junction of 75 and 675. Maybe we can hook up for dinner?

Terry K9TW

47517. Re: [TS-520_820_530_830] RE: TS-530S SSB filter adjustment success!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 22:35:32 UTC
From: Mark Gilger
Topic: 47454 Message: 47517

What's the $ damages going to be?
Mark, WB0IQK

At 05:33 PM 2/6/2014, wagstw46@... wrote:
>
>
>Mark
>
>
>Yes that is fine approach and would have to
>adjust depending on the particular after market
>filter characteristics. I am going to see if
>this NCH software has a demo. I want to make
>sure I can swing the output frequency and not just step it up or down.
>
>
>Rooms were sold out in Franklin. I am staying
>about 6 miles North now at Holiday Inn Express
>near junction of 75 and 675. Maybe we can hook up for dinner?
>
>
>Terry K9TW
>
>
>
>

47518. Re: [TS-520_820_530_830] TS-530S SSB filter adjustment success!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 22:44:29 UTC
From: <wagstw46@...>
Topic: 47454 Message: 47518

Why dont you and Craig go in on the new Rigol DSA-815-TG Spectrum Analyzer ($1495.00) and we can do just that and after hamvention I can take it home and take care of it for you and whenever I am not using it you guys can borrow it!

Actually dont need to bring a Sweep gen. Bring lap top with tone generator software, Spectrogram audio spectrum analyzer software, KW hybrid, wattmeter, and dummy load and good to go.

Can also do it with the Spectro gram and no need for tone gen or wattmeter.

I inject noise from Palomar noise bridge into So-239 and couple head phone audio into lap top sound card and you are then looking at your passband with Spectrogram. Can insert tuning tool in trimmer cap and watch as you move the response high or low. Frequency on one axis and dB on the other. Can also watch IF shift and VBT action and off signals if you like. It is loads of fun.

Look in the files section of a copy of a Spectrogram screen print I put there some time ago. It is an off air print so not as clean as what you get with white noise.

Terry K9TW

47519. Re: [TS-520_820_530_830] RE: TS-530S SSB filter adjustment success!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 22:46:59 UTC
From: <wagstw46@...>
Topic: 47454 Message: 47519

You mean how much will it cost you to buy my dinner? Well I am kind of partial to Long Horn Steak Houses!

My boy is a 6 foot 220 pounder and likes to eat so will have to hold him back a little! You have seen me and I eat like a sparrow!

Terry K9TW

47520. Re: Destroyed TS530 IF Board

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 23:00:22 UTC
From: <wagstw46@...>
Topic: 47477 Message: 47520

Chris

I am not sure what happened here. It could have been carbon track or it could have been 210/300 filter cap failure. I would like to see the board under the caps. From foil view it does not look like a cap failure.

We just had one member who had raspy CW note due to ripple on his Screen grid supply. Replacing these caps fixed the problem. Normally the HV caps are only ones that fail catastrophically and can puke black/brown tar like substance and cause collateral damage to diodes and rect board.

I use to preach if not broke dont fix, but I have modified that where it comes to the HV filter caps. I now replace all that come across my bench. Especially since I started using ESR meter. Often the capacitance is fine within tolerance, but ESR is telling you there is a problem.

I have replaced the 210/300 caps in my personal rigs and found a mixed bag as far as ESR was concerned. I only replace them in customers rigs when they request it. Maybe we are on verge of starting to see more of them fail. I just havent seen any failed or bad ones in the rigs that come across my bench yet.

They are cheap so might not be bad to replace when you replace the two HV caps. It is a judgement call. I always try to make that call based on what will the resultant collateral damage be if they do fail. If this is an example then it is a no brainer.

Terry K9TW

47521. RE: [TS-520_820_530_830] TS-530S SSB filter adjustment success!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-06 23:58:41 UTC
From: fpath fpath
Topic: 47454 Message: 47521

Mark,

It would be great if the slides from the Kenwood forum could be put up on the webpage aswell, along with the Q&A if possible, only so us small country hams cant get a slight taste. You guys in the state are just spoilt rotten having such great hamfests, if its not Dayton then it's Texas, if it's not Texas then it's Germany. When is it VK's turn?? Oh I forgot we dont have that many people or that many states, lol

73s

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com; TS-520_820_530_830@yahoogroups.com
From: mgilger@...
Date: Thu, 6 Feb 2014 16:54:25 -0500
Subject: Re: [TS-520_820_530_830] TS-530S SSB filter adjustment success!

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http://wb4hfn.com/DRAKE/DrakeHamvention/2010/Dayton2010-Menu.htm

Mark

At 10:53 AM 2/6/2014, wagstw46@... wrote:

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I would participate in a Q & A panel. Some risk of speaking from memory. Nice to have the reference documents at the ready. I suppose could access on line via lap top or bring hard copy.

Terry K9TW

47522. Re: [TS-520_820_530_830] TS-530S SSB filter adjustment success!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-07 00:01:29 UTC
From: Mark Gilger
Topic: 47454 Message: 47522

Jeff, WA8SAJ has one of these and boy is it nice.
I was just up there last week. He had a table
full of old Drake filters he was sweeping to see
if they were good or bad. Even if I had the
money, there are so many buttons and features I'd
probably have a master reset trying to learn it
all. We'll leave it up to Craig and you, ok?

Mark, WB0IQK

At 05:44 PM 2/6/2014, wagstw46@... wrote:
>
>
>Why dont you and Craig go in on the new Rigol
>DSA-815-TG Spectrum Analyzer ($1495.00) and we
>can do just that and after hamvention I can take
>it home and take care of it for you and whenever
>I am not using it you guys can borrow it!
>
>
>Actually dont need to bring a Sweep gen. Bring
>lap top with tone generator software,
>Spectrogram audio spectrum analyzer software, KW
>hybrid, wattmeter, and dummy load and good to go.
>
>
>Can also do it with the Spectro gram and no need for tone gen or wattmeter.
>
>
>I inject noise from Palomar noise bridge into
>So-239 and couple head phone audio into lap top
>sound card and you are then looking at your
>passband with Spectrogram. Can insert tuning
>tool in trimmer cap and watch as you move the
>response high or low. Frequency on one axis and
>dB on the other. Can also watch IF shift and VBT
>action and off signals if you like. It is loads of fun.
>
>
>Look in the files section of a copy of a
>Spectrogram screen print I put there some time
>ago. It is an off air print so not as clean as what you get with white noise.
>
>
>Terry K9TW

>

47523. RE: [TS-520_820_530_830] TS-530S SSB filter adjustment success!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-07 00:02:11 UTC
From: Mark Gilger
Topic: 47454 Message: 47523

I know. I live a whole 3 1/2 hours away.

Mark

At 06:58 PM 2/6/2014, fpath fpath wrote:
>
>
>Mark,
>
>It would be great if the slides from the Kenwood
>forum could be put up on the webpage aswell,
>along with the Q&A if possible, only so us small
>country hams cant get a slight taste. You guys
>in the state are just spoilt rotten having such
>great hamfests, if its not Dayton then it's
>Texas, if it's not Texas then it's
>Germany. When is it VK's turn?? Oh I forgot we
>dont have that many people or that many states, lol
>
>73s
>
>Dave
>VK5PDL
>
>
>----------
>To: TS-520_820_530_830@yahoogroups.com; TS-520_820_530_830@yahoogroups.com
>From: mgilger@brightdsl.net
>Date: Thu, 6 Feb 2014 16:54:25 -0500
>Subject: Re: [TS-520_820_530_830] TS-530S SSB filter adjustment success!
>
>
>Lap tops is included in each room with access to
>the outside world if needed.
>
>For reference, our Drake forum does not need to
>use wifi and I simply rely on power point presentation.
>
>I think all those suggestions Terry made are
>great. The Q&A session has alway been good and
>can occupy by itself 15+ minutes. Maybe Jan is
>even a member of the Dayton group and could be
>the front man to get us a spot? What say Jan???
>
>Last year, just after Dayton, I did in fact

>email the Dayton group asking if it would be
>possible to get a room for just this reason. I
>never got an answer, so kind of forgot about it
>until just now as I was starting preparing the
>slides for this year's Drake forum. Sure be
>nice to know someone on the inside, as email
>does not seem to work, even when the email
>address was what was specified the correct one
>to use for this purpose. Oh well.....
>
>If anyone is interested in viewing the Drake
>slides, they are posted on Ron's web page. The
>last one's posted are from 2010.
>
><http://wb4hfn.com/DRAKE/DrakeHamvention/2010/Dayton2010-Menu.htm>http://wb4hfn.com/DRAKE
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>Mark
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>At 10:53 AM 2/6/2014, wagstw46@... wrote:
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>Would you envision it being a Q&A session or
>some power point presentations or both?
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>Maybe get Jan to give presentation on SDR and
>L-pan interface with KW hybrids? Maybe Dick present band switch repair?
>
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>Might be interesting if could demonstrate how to
>load a KW hybrid. Lots of confusion and voodoo
>stuff going on there, but not sure how would project that so all could see.
>
>
>I would participate in a Q & A panel. Some risk
>of speaking from memory. Nice to have the
>reference documents at the ready. I suppose
>could access on line via lap top or bring hard copy.
>
>
>Terry K9TW
>
>
>
>

47524. Re: [TS-520_820_530_830] Meter pegged in IP on transmit on TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-07 00:09:33 UTC
From: <paw_paw44036@...>
Topic: 47465 Message: 47524

Ok I have put the rig back together and it seems to be working fine. Good power output and good audio on the other end and good audio here on this end. At the time this happened I was waiting my turn on a net that I check in daily. I had checked in and Charlie W0LAV acknowledged me. We had a few words and all was fine. He said I had a great signal and audio in MO. I had to wait my turn, about 10 minutes listening, all was fine until I went to transmit and the meter pegged and Charlie said he could barley hear me and it was garbled. It pegged once more as I tried to reply. I shut down and fired up the Icom IC-756 to finish the qso. About an hour went by and I pulled it out of line and took off the covers thinking I had popped the cathode resistors. I checked the resistors and they were ok. 5.6 ohms. I got out the service manual to follow the meter circuit and I found that R 10 was cracked and I couldn't read what the bands were. I pulled it out of the circuit and the meter pegged again. So, I assumed that this R-10 played an important part of a voltage divider circuit and went looking to find there were three different resistors being used. I tried a 6.8 Ohm as the middle of the resistors that the circuits showed. Meter did not peg this time but was reading high. I removed the 6.8 and replaced it with the 4.7 Ohm and everything seem to work ok now. Still read a little high but much better. 250 ma at 100watts output 14.175 mhz. I will give it a good shake down tomorrow on the net. Bill WD8OSJ PS: the HV and RF switch selections were not affected by this. I don't think the meter is hurt as it still reads 935/825 volts. And this agrees with the Fluke Meter. ???????

47525. Re: [TS-520_820_530_830] Meter pegged in IP on transmit on TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-07 01:41:41 UTC
From: <wagstw46@...>
Topic: 47465 Message: 47525

Bill:

Do you recall where you had the meter selector switch when this occurs while checking in to the net? I normally would have it in ALC when running SSB mode.

What position was meter selector switch in when you tried it again? By try again do you mean to load the rig or to use in SSB mode?

Terry

47526. RE: [TS-520_820_530_830] TS-530S SSB filter adjustment success!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-07 02:07:33 UTC
From: <wagstw46@...>
Topic: 47454 Message: 47526

Mark:

How much time would be allotted for a Kenwood Hybrid Users Group forum? I think you said 15 minutes for the Q&A session. Depending on the time limit might want to just focus on one practical topic and use setting the Carrier Oscillators. It does have an element of user preference to it and there are about 4 or 5 ways to do it. Could demonstrate each method and use Spectro-gram to look at the results or use Jeffs Rigol analyzer.

1. Method one requires no test gear. Set by ear. Some do this by listening to off air signal of familiar voice like a net control or some do it by listening to self using the Moni function on the rigs that have that feature. This can be done but is least effective. Would use Spectro-gram to look at the as left results.

2. Method two uses the rigs built in test gear ie the Marker signal and S-meter zero beat method. A very easy method and pretty good results. Could adjust for approx an S7 zero beat and approx S3 zero beat and look at difference in the results again on Spectro-gram. Richard Measures describes the method in the TS830 Survival Guide. One of the few things that is worth anything in that guide.

3. Method 3 would be to use a Frequency Counter and just set to the LSB and USB carrier oscillator crystal frequencies. This is done all the time by folks who just call it good enough. Again look at the results with Spectro-gram.

4. Method 4 would be to use Audio sig gen and Wattmeter (service manual method) and again look at the results with Spectro gram. Some techs believe this is the only way to do it and their position does have some merit.

5. Method 5 would be to just set using Spectro-gram and see results in real time. This is as good as method 4 in my mind.

Maybe something you and Jeff could present as both live close and could set up and practice before the Hamvention? I would be happy to help with the Q&A session even though setting yourself up for having to say "darned if I know" to a live audience!

Terry K9TW

47527. RE: [TS-520_820_530_830] TS-530S SSB filter adjustment success!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-07 04:07:24 UTC
From: Mark Gilger
Topic: 47454 Message: 47527

They would probably allocate 1 hour. The Drake
forum has been 1 hour for years, even though we keep asking for 2.

Mark

At 09:07 PM 2/6/2014, wagstw46@... wrote:
>
>
>Mark:
>
>How much time would be allotted for a Kenwood
>Hybrid Users Group forum? I think you said 15
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>and approx S3 zero beat and look at difference
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>yourself up for having to say "darned if I know" to a live audience!
>
>Terry K9TW
>

47528. Kenwood Parts

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-07 02:43:25 UTC
From: Byron
Topic: 5286 Message: 47528

Hello-
I was wondering if any list members know of where I might obtain these Kenwood items:
1. The coil cord assembly with connectors that connects from MC-50 base to the TS-520S radio. I have a MC-50 microphone and base assembly, but missing the coil cord assembly.
2. The small DC power connector that plugs into rear of TS-520S (for digital display).
Thank you very much,
Byron WA5THJ

47529. Re: [TS-520_820_530_830] RE: Motorola 6146Bs

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-07 06:10:00 UTC
From: <basketoak@...>
Topic: 47483 Message: 47529

Terry,

Great advice.....but pls help us do it right. I have 530SP & 830S in great working order.

How do we proceed with the rotation, given some "old, unused spares" and a perfectly good, working hybrid?

How do we protect our precious Kenwood from damage when rotating the finals?

Do we monitor any particular meter values?

Do we install them, then bring up slowly on a variac?

Do we simply turn on heater power, and leave for a period of time, or operate the Xmtr as well?

Sorry for such mundane questions, appreciate your help.

73's

Dave
KG4MGB

---- wagstw46@... wrote:

==========
I forgot to mention I like to rotate spare 6146 finals in and out from time to time. In my experience letting 30 plus year old finals sit on the shelf expecting that they will be viable spares when you have to reach for them has not been a good experience for me.

Terry K9TW

--
Dave Beadner

47530. Re: [TS-520_820_530_830] RE: Motorola 6146Bs

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-07 12:22:32 UTC
From: <wagstw46@...>
Topic: 47483 Message: 47530

Dave

Lots of debate on this. You cant really bring them up slow unless you would use a variac or dim bulb tester as the moment you turn on the rig (power on and not the heater switch) you have 900vdc applied to the anodes of the finals. If they are going to arc they need high voltage applied. Some folks replace the cathode resistors and try again after an arc over and find the tubes have not been hurt and work just fine. I never use any again that have arced over. My biggest concern is my panel meter.

Some fellows have an old Heath DX-60 or DX-35 around and they "cook" them in these rigs first. Best way to cook is to remove the SG and Anode voltage and just run on heaters for several hours (some do this for 24 hours) and not easy to safely remove these two voltages unless you modify the old rig. Can lift the anode caps and unsolder the SG lead. But need to be careful and not have these leads contact anything in the rig or worse yet you. I suppose could use an old filament transformer and jumper secondary voltage to the heater pins of the tube.

Some say this is useless as the 6146 uses a flash getter that only works at factory during final assembly steps. So any attempts to cook or getter later is useless as no getter material (typically barium Ba) left in the tube to neutralize any off gassing that may have occurred over these long years. Some think that raising the temperature via the heaters drives off the gas and others say this is bunk. I am in the latter camp. Although I have seen differences in Hi-pot leakage after cooking and cannot explain why. My thought is that cooking wont help but cant hurt.

So what I am saying is there is probably nothing you can do to prevent arc overs. If you had a DC hi-pot could screen tubes and any that could not hold off from 2000vdc to 2500vdc you would not place in your KW hybrid. I home brewed one and screen all my tubes. Average ham doesnt have this test gear.

So what average ham can do is try to protect his rig by trying to limit the fault current that the HV caps, diodes and power transformer sees and to protect the delicate meter movement. The meter is the weakest link in all of this. Can be protected with a simple series string of 3 silicon diodes.

Take a look at my protection mods that Mark Gilger placed on WB4HFN website under the Kenwood Users Group. I have modified all my rigs to try to limit damage from tube arc over. So far seems to be working. Mark has also installed these mods. Some customers request I mod their rigs as well. I can not guarantee the mods will 100% prevent rig damage during an arc over event. So far seems to be working.

Terry K9TW
Show message history

47531. RE: [TS-520_820_530_830] TS-530S SSB filter adjustment success!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-07 12:23:44 UTC
From: <wagstw46@...>
Topic: 47454 Message: 47531

OK yes 1 hour would go by pretty quickly especially if lots of questions.

Terry K9TW

47532. RE: Another 6146W final tube source JAN

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-07 05:23:06 UTC
From: <big_argus@...>
Topic: 47364 Message: 47532

Just bought a NOS set of RCA 6146B's on EBay this afternoon for my yet to arrive Kenwood TS-820S, it appears to be too cold & slick in Hodgkins, IL for the UPS folks to be able to work. I'm a new HAM and have a bit of electronics background with the exception of vacuum tubes, so please don't shoot the messenger.

I just had my tube guru buddy (commercial license holder, works big radio stations) tell me the best way to de-gas those tubes is to disconnect the top cap connectors on the tubes (tape 'em, hang 'em up to make sure they don't short against anything) and run the heaters for 24+ hours in order for the getter do it's job as others have stated. Not to mention he said "Don't Key The Mic" while this is going on. Then you can, shut down, button everything up and start the neutralization process. Just passing on the info, so again: YMMV.

James
KG5AAQ

47533. RE: [TS-520_820_530_830] TS-530S SSB filter adjustment success!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-07 12:38:16 UTC
From: <wagstw46@...>
Topic: 47454 Message: 47533

Mark

Maybe for this first year we could just make it more of a social get together so we can all meet and put a face and voice with a name. Could have a panel and just have a Q& A session. If cant answer the question no harm no foul.

Could also pole the attendees this year about what they would like to see next year and then would have a year to prepare for that demonstration. Could be a live demo or make a video. Whatever vehicle used must be so all can see and hear.

Terry K9TW

47534. RE: TS-530S SSB filter adjustment

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-07 13:05:21 UTC
From: <e55sh@...>
Topic: 47454 Message: 47534

Greetings Terry. i also have an Inrad 2.8 filter in my 530. It is in the original 2.4 slot. Concerning the carrier point adjustment, do I still use the service manual frequencies (300,2.7k) for the alignment? I'm thinking that with a wider filter, these adjustment frequencies would be different to accomodate the wider filter. I have already checked my signal gen to verify that the output level is the same at 300, 1.2k, and 2.7k, so that won't be an issue. Just a little confused as to why use 2.4k alignment for a 2.8k filter.Thanks. Eric KA2PVT

47535. RE: Kenwood Parts

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-07 13:08:41 UTC
From: <wagstw46@...>
Topic: 5286 Message: 47535

Byron

Did you find the TBL info that you were looking for?

Terry K9TW

47536. RE: TS-530S SSB filter adjustment

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-07 13:32:50 UTC
From: <wagstw46@...>
Topic: 47454 Message: 47536

No

When I advised folks to follow the Service Manual steps I was thinking more of the procedural steps and why 50 watts and the constant millivolt injection level were important and not so much the expected and typical roll off points listed for the KW supplied filter.

If you have a sig gen that is continously variable after setting the mic gain at approx 1200 to 1500 hz (can use 1400 hz for your 2.8khz filter) for nominal 50 watts out then just run the output frequency down and watch the RF output begin to fall on the wattmeter and note the frequency when you get to approx 1/2 power and then run the frequency up and watch wattmeter and note upper frequency where see approx 1/2 power. This will tell you where the Carrier Osc trimmer is presently adjusted. I kind of like to see where the as found setting is at before I make adjustments. Dont have to do that can just set sig gen for the lower and upper frequencies you want and adjust appropriate trimmer.

One thing that you may have to do is run the trimmer thru its range multiple times as it tends to sit in one place. These are ceramic trimmers and sometimes will even be slightly stuck and you will feel and hear it move. If cant get stable adjustment can try at the 2nd spot in the trimmer rotation.

Also, make sure you have the IF shift in center position. Sometimes the IF shift pot can be dirty/noisy and if you even touch or tap the knob where you leave the trimmer at will change. You can tell just by the change in the tone of the back ground noise. If you experience the as left Bass or Treble response drifting around much after you set them and turn the rig back over you may have a dirty or even worn IF shift pot.

When all done go to quiet spot on band and turn up AF gain and quickly flip back and forth between LSB and USB and back ground noise should have same tone. Not real scientific but gives you an idea that you have them matched pretty well. I have had times when put covers back on and set rig in normal orientation only to find they have shifted when I did this simple final check. That is why they have access holes in the bottom cabinet so owner can have easy access to adjust them.

So Mark Gilger was right that I was not correct advising to literally follow the service manual steps. Need to adjust for the upper and lower frequencies depending on the characteristics of the after market filter you are installing.

Sorry about that.

Terry K9TW

47537. Re: [TS-520_820_530_830] Meter pegged in IP on transmit on TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-07 14:00:12 UTC
From: <paw_paw44036@...>
Topic: 47465 Message: 47537

The switch was in IP position. I normally switch it to ALC mode, but was a little rushed and forgot. The rig stays on 14.304 most of the time and I never retune it unless I switch bands and that is not very often as I use the 530 to work other bands most of the time.
The meter would peg just keying the mic in SSB mode. That is why I thought it was the cathode resistors..
But they were fine. 5.6 ohms. The only resistors I found bad was R-10. Replacing it cured the problem. Why it went bad, who knows, age I would assume as it was an old carbon style 1/4 watt. The rig seems to be working ok now as I talked to Texas last night on 20 M and got a great report barefoot.
I turned the rig on and let it warm up while I was typing this and I just keyed the mic and I have idle current of 60 ma. On the dummy load, which I wish everyone would use, I get 110 watts output with 240 ma current.
That is using my Bird 43 watt meter. I have to leave for a appointment and will let you know what happens later today.
Bill WD8OSJ

47538. Re: [TS-520_820_530_830] Meter pegged in IP on transmit on TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-07 15:01:41 UTC
From: <wagstw46@...>
Topic: 47465 Message: 47538

Ok and did you also say then after that first event that you removed R10 and with it removed or lifted from the final board you keyed rig again in SSB mode with the meter in IP that it pegged again.

If so, you are telling me the meter pegged in IP position with the failed resistor in and out of the circuit. Is that correct?

One thing you have to remember is that in SSB mode with no mic input and you key the mic should only see 60ma zero signal plate current because all that has changed is that you have switched from cutoff bias to operating bias on the 6146 control grids. There is no rf drive. Of course always best to check this with Mic gain at minimum so no modulation to cause higher Ip.

So keying rig in SSB mode and pegging the meter in IP position means the meter had to see very high IR drop across the cathode meter shunt resistors or the meter multiplier resistor R6 had to be shorted and then only takes 0.40vdc to peg the meter. You report R6 us normal resistance so meter should be configured to measure a max of approx 1.75vdc.

Only fault I can think of that would cause the meter to peg in SSB mode with R10 in and out is loss or change of operating bias voltage. I am still suspicious about this.

Only way I know for R10 to affect the IP reading is for it to go very low which would then cause your 5 ohms to go very low. This would result in low IP and not pegged IP.

Mike W5RKL --Please add any insights you may have. I have pretty much exhausted any ideas.

Bill --Please confirm meter behaved same way with R10 in and out of the circuit. Meter pegged FSD in SSB mode when mic keyed.

Terry K9TW

47539. Re: [TS-520_820_530_830] TS-530S SSB filter adjustment success!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-07 15:11:06 UTC
From: Mark Gilger
Topic: 47454 Message: 47539

Jimmy and his wife are also planning on attending.

Mark, WB0IQK

At 09:24 AM 2/6/2014, wagstw46@... wrote:
>
>
>Mark
>
>
>I am looking at rooms now. Spoke to my oldest
>boy Gordon who came with me 2 years ago and he
>is game and I promised him he wont have to lug
>any boatanchors back to the car (wink wink). We
>can all exchange cell phone numbers like we did last time.
>
>
>I will let you know if I am coming for certain.
>Dick tells me he and his son are also planning to come again.
>
>
>Terry K9TW
>

47540. RE: [TS-520_820_530_830] TS-530S SSB filter adjustment success!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-07 15:13:29 UTC
From: Mark Gilger
Topic: 47454 Message: 47540

If this were to ever get off the ground, yes we
would not have a problem adding them to the web
site for those that couldn't attend.

Mark, WB0IQK

At 06:58 PM 2/6/2014, fpath fpath wrote:
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>
>Mark,
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>It would be great if the slides from the Kenwood
>forum could be put up on the webpage aswell,
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>Dave
>VK5PDL
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>To: TS-520_820_530_830@yahoogroups.com; TS-520_820_530_830@yahoogroups.com
>From: mgilger@...
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>If anyone is interested in viewing the Drake
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>Would you envision it being a Q&A session or
>some power point presentations or both?
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>
>
>Terry K9TW
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47541. Re: Motorola 6146Bs

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-07 15:39:23 UTC
From: paw_paw44036
Topic: 47483 Message: 47541

I built a small box wit a 12 volt transformer an 3 tube sockets. 2 octal and 1 - 9 pin. Every 6 months I plug in my spares for 24 hours to try and keep them fresh. Simple circuit ti build.
Bill WD8OSJ

Sent via the Samsung GALAXY S®4, an AT&T 4G LTE smartphone

47542. Re: [TS-520_820_530_830] TS-530S SSB filter adjustment success!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-07 16:48:55 UTC
From: <wagstw46@...>
Topic: 47454 Message: 47542

He needs Nancy to pull the little red wagon! She is a real trooper. My guess is this year it will be a much bigger wagon! Terry K9TW

47543. Re: [TS-520_820_530_830] Meter pegged in IP on transmit on TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-07 17:25:57 UTC
From: <paw_paw44036@...>
Topic: 47465 Message: 47543

With the bad resistor the meter pegged and without the resistor it also pegged the meter. There was not a mic plugged in at that time and I was using the send / receive switch to transmit.
I replaced the bad R-10 and everything is normal. just checked into the net and Charlie said I sounded
like my old self sitting in the chair next to him. I was using about 25 watts on the peaks. I really like
this 830. It is much better than the 530, but the 530 ain't no slouch either. I run the 530 on 40 / 80 meters.

Bill WD8OSJ

47544. Re: [TS-520_820_530_830] Meter pegged in IP on transmit on TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-07 18:02:21 UTC
From: <wagstw46@...>
Topic: 47465 Message: 47544

Ok Bill appreciate the feedback as I am trying to understand this anomaly. As I previously related you can remove R10 from any TS830 or TS530 and throw it away and the meter circuit will function just fine.

If you want to see its effect just lift one end and bring out jumper leads and load rig to say 200ma and then touch R10 on and off the circuit and you will see perhaps a needles width of movement. The higher R10 ohmic value the more accurate the meter reads. The lower R10 the lower that Ip will read.

As to how you found it at 55k ohm and burned and cracked with no ill effect on R6 2.7k meter multiplier is a mystery to me. If you should experience this again I would clean the bias voltage adjust pot and run it thru its range a few times just to be on safe side.

One thing I forgot to ask is if you have the original cathode resistors installed or not. Pretty easy to tell. My guess is they have been previously replaced and R10 is remnant from that event?

Important thing is rig is working now as it should.

Enjoy your TS830

73s
Terry K9TW

47545. Re: [TS-520_820_530_830] Kenwood Parts

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-07 12:04:36 UTC
From: Michael Sylvester
Topic: 5286 Message: 47545

Here is a slew of longer cables on eBay, not cheap though, they run about $25. There is also my mic with silver contact micro switch upgrade in the base farther down the page:
http://www.ebay.com/sch/i.html?_trksid=p3984.m570.l1313.TR0.TRC0.Xmc-50+microphone+base+cord&_nkw=mc-50+microphone+base+cord&_sacat=0&_from=R40

The mic cables are 6', you could cut one down and have a spare for 20 years from now when that gets tired.

The power cable you need, I'm not sure on, just woke up and Caffeine IV is just beginning to trickle.

Someone here I'm sure has both in the parts box if you can get them to dig the cables out for you.

Can I continue to use my siglines if I restrict myself to non-confrontational/non-upsetting ones?(I've seen others using them this week). Hard habit/tradition to break.

Michael///KD0WSJ

this msg/post edited as it contained already posted material - WB7UQU

47546. Re: [TS-520_820_530_830] RE: Kenwood Parts

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-07 13:59:51 UTC
From: Byron Tatum
Topic: 5286 Message: 47546

Yes Terry-
I found quite a bit of data on TBL and I ended up removing the long wiring loop over to the IF board and simply soldering a 3.9K resistor between TBL and RLT on the RF board.
Actually, before I found the info in the archives, I had measured the resistance on the components on the terminal strip at 3.8K, traced the wires out to TBL and RLT on RF board, chose a 3.9K 1/4 watt resistor and had soldered the resistor in place on RF board. I did this because I thought it was a mod, and if it really was factory it was a little out of character with the rest of the construction.
I tell you, I do not like the receiver in this TS-520. I have been able to greatly reduce the 3.736 spur in the receiver, and I have gone through the alignment several times. It aligns beautifully and the receiver is really hot, however when I turn on the calibrator it is hard to find the actual calibrator signal for all of the spurious signals about every few KHz. The calibrator signal is not that strong on the higher bands (about 5-7 on 28 Mhz) but the spurs are being created, I have not investigated it any more, This is the only TS-520 that I have ever owned or gone into, I have a number of TS-520S models here and none have ever exhibited this behavior.
Thank you for all of your help here.
Byron WA5THJ

47547. "sigature(sig) lines" on posts

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-07 18:36:52 UTC
From: Joseph Stiles
Topic: 47547 Message: 47547

Greetings Group,

I hope everyone is doing well so far this year. I have received several questions & complaints
regarding "sig(signature) lines" that are attached to posts/msgs. So, I know it is not going to make
everyone happy...but, we all can learn to live with certain restrictions.

"SIG (signature) LINES" will be permitted under the following guidelines:

Generic "sig-lines" only! For example, what Bob Macklin signs: "Real radios glow in the dark," is just
one of any number of examples that would be permitted, BUT let's not over react.

Overt political, religious, or derogatory statements will not be permitted....AR

I, and the moderators, try our best to administer this group and know not everyone is going to be happy, no matterwhat we do. I do not care what is allowed on/in "other groups." This is not the "other group(s)."

The groups "policy/rules" section will be updated in the near future, to reflect this change.

So, let's work and play well with others...OK?

Thanks for your attention to this matter

73 Joe

WB7UQU
TS-520_820_530_830 yahoo group Co-Owner

47548. ts-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-07 20:07:44 UTC
From: <n0dks1@...>
Topic: 27435 Message: 47548

I hope some one can help, I had a ts-520 given to me. The side panel the covered the controls was missing
if someone could take there panel and trace around it and the holes and mail it to me I would be very grateful
My qrz page is up to date, my call is n0dks .

Thanks
Dave n0dks

47549. Re: "sigature(sig) lines" on posts

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-07 20:27:17 UTC
From: M. J. Synowiec
Topic: 47547 Message: 47549

Hi Joe,

I hope this finds you well. Thank you for the policy adjustment. I belong, as most do, to several user groups. This group has always been the most courteous and congenial as well as the most informative and factual in guiding folks "to the light'. One reason is we keep it apolitical etc. and really limit topics to these marvels of engineering we operate. Seldom do I find myself thinking " What got into him?" I look forward to my daily dose of Kenwood lore and the commentary of my peers. Again thanks for taking steps to insure it continues thus. You used a very gentle "manitenace tap" to push the point home.

God bless & be well,
Mike K8SYN

47550. REACTIVATING OR RECONDITIONING A TUBE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-07 20:34:07 UTC
From: Jan Servaites
Topic: 47483 Message: 47550

There's much info posted on the web. I have made a few setups to perform reactivation of glass, and as well as ceramic tubes following these guidelines on PA0FRI's webpage:
http://pa0fri.home.xs4all.nl/Lineairs/Tubes%20reconditioning/tube%20reconditioning.htm
Configure the tube into a diode and check its conduction as a test. Yes, its not a complete characterization of the tube, especially a tetrode, but its easy to do. I have tested quite a few 572b's triodes to sort out the good and the worn out ones.
Jan N8CBX

47551. RE: Meter pegged in IP on transmit on TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-07 21:33:18 UTC
From: <paw_paw44036@...>
Topic: 47465 Message: 47551

When I first got this rig about 8 months ago. The gent I got it from said he use it to run RTTY and a lot of CW.
He warned me ahead of time that It may need some work an alignment. On 24.5 and 28 it was almost impossible to load more than 20 watts. So I dug into it to see what was going on. I pulled the tubes and went over to a friends house that restores old antique radios. He ran the tubes through his Hickok tube tester. the driver tube was a little on the week side so he found a good one in his stash and gave it to me. The 6146 b (GE Brand) check 100% good. no shorts and no gas. I came home and replaced and as I pushed one of the finals in I saw a crack in one of the cathode pins solder joint, I pulled the tubes again. Remover the final board completely. Cleaned it and checked all the resistors. The cathode resistors were 9.7 ohms total. I had a spare set from Ken and I replaced them and the screen resistors. and the R-11 resistor on the rectifier board. I also had a kit for the final cage and changed that also. I re-soldered all the pins on the tube sockets and removed the af board and the panel and re-soldered all the pins for the driver tube. Cleaned and lubed the fan. Cleaned the band switch and checked the coupling. It is ok. Took it outside and pumped up the compressor and blew out all the dust. I reassembled everything very carefully and plugged it in. As you can see I tried to do it right. I turned it on and went for dinner. I came back 1/2 hour later and it was good and warm then. I checked all the crystal frequencies and found them to be in spec. Also cleaned the VFO and re-lubed it. I got it to load 115 watts on 14.175 at 230 ma. I thought this was pretty good. 10 m and 15 m came up to 90 watts. I went to 160 and loaded 125 watts at 230 ma. Wow this thing is good. The new driver tube and a hand full of upgraded parts did the trick and is has been that way ever since. Until Monday. I keyed the MC-60 and checked in and said a few words to Charlie and waited my turn. When that came I keyed the mic and the meter pegged and Charlie ask what happened. It did the same thing a second time.
I shut it down and turned on the IC-756 and explained to Charlie what had happened. After that I unhooked it and pulled the covers and that is all I found that was bad. I took the finals again to my friend and he said they were great. No sign of arc over as the capacitance on the elements checked fine and up to speck. He said when a transmitter tube arc's it changes the components inside the tube because it burns a wire or two from the grid circuits. He showed me a sweep tube that had arced over and you could clearly see the damage. SO why this did what it did, I have no idea as you said it shouldn't do what it did. Is there anything that RL-1 could do to cause this? I have a new one on order from Ken, but he may not get them for awhile. I also ordered one of those replacement relays with the twin relays on it to try out and see if it is as good as they say. They claim that it is better as it is sealed and in a vacuum. Do you know of any mods that will slow down the speed of the VFO as you turn it.25 kc is awful fast to me. The 530 is the same. Have to look for a planetary drive like 10 to 1. I hope all this answered any questions you might have had.
Bill WD8OSJ

47552. RE: Meter pegged in IP on transmit on TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-07 21:37:15 UTC
From: <paw_paw44036@...>
Topic: 47465 Message: 47552

I did clean and reset the bios pot.
Bill WD8OSj

47553. Dayton Hamvention lectures

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-07 21:55:03 UTC
From: Jan Servaites
Topic: 47454 Message: 47553

Mark,
I'm now getting through all my emails and read this one.
Yes, I'm a DARA member and the club has it's member meeting tonight (1st Friday of each month), and I'll find the chairman and ask about a time slot. It would be great to have a slot before or after the Drake lecture.
Jan N8CBX

Mark Gilger wrote (was TS-530S SSB filter adjustment success! topic):

>
> I think all those suggestions Terry made are great. The Q&A session
> has alway been good and can occupy by itself 15+ minutes. Maybe Jan is
> even a member of the Dayton group and could be the front man to get us
> a spot? What say Jan???
>
>
>

47554. Re: [TS-520_820_530_830] 830 parts and accessories

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-07 23:49:33 UTC
From: Jan Servaites
Topic: 47511 Message: 47554

Jim,
Do you still have the filter for sale?
Jan N8CBX

marvinkleek@... wrote:

>
>
> My TS 830 is gone and I have some accessories I would like to dispose of.
>
>
> 1. The matching SP 230 speaker in perfect condition. $75 plus @10
> shipping.
>
> 2. YK88-C 500 hz crystal filter. New, in box. $60 including shipping.
>
> 3. Kenwood MC-80 mic. $50 plus $10 shipping.
>
> 4, RL-1 relay - New, in K4EAA bag. $15 incl. shipping.
>
> 5. 2 Omron MX-2P relays (I know one of them is good, but not sure
> about the other. I can't remember which one is which, so will
> sell as a pair for best offer).
>
> Paypal preferred. Contact me offline Marvinkleek@...
> <mailto:Marvinkleek@...>
>
>
> 73 and thanks. Jim W4ANE
>
>
>
>

47555. Re: [TS-520_820_530_830] Re: Motorola 6146Bs

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 00:32:15 UTC
From: Chris Maness
Topic: 47483 Message: 47555

Terry, the mirroring on the inside of the envelope is from the getter, and it is still oxidizable. That could be the source of the decrease in leakage at HV. I have a gassy 12BY7 in Apache, and the dull purple glow has diminished since using this old rig.

Chris KQ6UP
On Feb 7, 2014 7:39 AM, "paw_paw44036" <paw_paw44036@...> wrote:

>
>
> I built a small box wit a 12 volt transformer an 3 tube sockets. 2 octal
> and 1 - 9 pin. Every 6 months I plug in my spares for 24 hours to try and
> keep them fresh. Simple circuit ti build.
> Bill WD8OSJ
>
>
> Sent via the Samsung GALAXY S®4, an AT&T 4G LTE smartphone
>
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47556. Re: [TS-520_820_530_830] Re: Motorola 6146Bs

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 02:03:25 UTC
From: <wagstw46@...>
Topic: 47483 Message: 47556

Yes I think you are correct it is due to the remaining barium on the flash on the glass envelope. But why doesnt it react with the gasses that have leached out while sitting at room temperature? Why does it take elevated temperature to accelerate this?

Only reason that they use high RF induction is to cause very high current in the getter ring near end of draw down to cause the nickel shield liner "weak link" on the getter ring to rupture and expel or flash the barium on the glass envelope. After that the barium and doping elements inside the getter ring do nothing.

I suspect it is as you say the result of the action with the barium in the flashed coating that remains there to contain any occluded gas that leaks out over long time. Just dont understand the need for filament heating.

I once saw a video where the fellow took a perfectly good tube with flashed getter and cut the glass tit off the top of the tube envelop and you could watch the flash coating slowly turn to white powder as the atmosphere that entered the tube was oxidized by that residual barium. A very telling experiment. No heating required for that action.

Terry K9TW

47557. RE: Meter pegged in IP on transmit on TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 02:04:06 UTC
From: <wagstw46@...>
Topic: 47465 Message: 47557

Bill:

Yes very good detailed history. No I dont know of any way to slow down the VFO tuning rate other than rube goldberg mechanical mods.

When a 6146 arcs over it typically arcs to the beam forming plates as they are physically the closest to the anode. The beam forming plates like a suppressor grid is electrically connected to the cathode which is connected to ground thru the cathode meter shunt resistors.

A 6146 tube can arc over and you will not be able to measure or detect any damage of any kind. Will be no difference in Cgp or Cgk inter-electrode capacitance. Your friends experience is quite different than mine. No way to use a ohm meter or LCR bridge to determine if 6146 tube has suffered any damage.

In 10 years I have had 2 rigs across the bench that arced somehow from the Anode to the Control grid as opposed to the beam forming plates. Now that is not pretty as it causes a lot of damage to everything in the FG and bias circuit including damage to the final board, the ALC amp circuit, AF board molex connectors, the bias pot ruined, and all the way back to -C supply. I have not seen an Anode to SG arc over that was evident.

It is possible to have a 6146 arc over and incur no detectable tube damage and many folks replace the cathode resistors and try the tubes again and will experience no problems after that. I do not do that. I dont trust them. I DC hi-pot and if tube wont hold off 2000vdc to 2500vdc I wont put in my rig. Remember with RF drive you are seeing approx 1600 volt anode swing.

I think I mentioned that I have hi-potted spare 6146 tubes and seen excessive leakage at 1000vdc and then "cooked" them in an old DX-60 overnite and hi-potted again and seen improvement up to around 1500vdc. Not sure why this occurs unless the elevated temperatures causes what remaining barium that is flashed on the glass envelope to be more reactive? I have no clue why leakage improves somewhat after "cooking". you would think that cooking might even drive out more occluded gas? However, I have never been able to take any 6146 that wont hold off at least 2000vdc and improve it by cooking for any amount of time. Can "cook or getter" until the cows come home and wont lower the leakage current.

So it is up to each individual if they want to try the finals again after an arc over that has resulted in cathode meter shunts popping open. Now if they have popped open due to thermal runaway that is a different matter. Almost always the finals are destroyed. There has been element melting and sagging and internal shorts introduced.

In my opinion you cannot prevent arc over, but can prevent and limit damage by installing protection circuits such as the ones I have proposed and installed in my personal rigs.

Terry K9TW

47558. Vaccum tubes, Getter Flash, and other vacuum tube discussions

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 03:46:30 UTC
From: W5RKL
Topic: 47465 Message: 47558

Everyone,

Below are some interesting reads about Barium, Zirconium, gas absorbing material used in vacuum tubes.

The Getter Flash discoloration myth:

http://tubesound.com/2008/09/30/brown-or-black-getter-flashing-does-not-mean-used/

Barium getter flash:

http://education.jlab.org/itselemental/ele056.html

http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0CDIQFjAB&url=http%3A%2F%2Fwww.saesgetters.com%2Fsites%2Fdefault%2Ffiles%2FBarium%2520Getters%2520Features_0.pdf&ei=IqH1UpbpOIi2yAGsrICYBQ&usg=AFQjCNFd2tlRFhtWuzb8SyAbh_tHlGUCnw&bvm=bv.60983673,d.aWc

Another link that discusses gas absorbing in vacuum tubes, including high power tubes such as the 811, 572B, and while not indicated, it also includes the 4-400 and 3-500Z. This link also covers additional vacuum tube information such areas as bias, blue glow, amplifier classes etc. A very good read for the newbies and others as a refresher:

http://www.vacuumtubes.net/How_Vacuum_Tubes_Work.htm

73
Mike W5RKL

On 2/7/2014 8:04 PM, wagstw46@... wrote:
>
> Bill:
>
>
> Yes very good detailed history. No I dont know of any way to slow down
> the VFO tuning rate other than rube goldberg mechanical mods.
>
>
> When a 6146 arcs over it typically arcs to the beam forming plates as
> they are physically the closest to the anode. The beam forming plates
> like a suppressor grid is electrically connected to the cathode which
> is connected to ground thru the cathode meter shunt resistors.
>
>
> A 6146 tube can arc over and you will not be able to measure or detect
> any damage of any kind. Will be no difference in Cgp or Cgk
> inter-electrode capacitance. Your friends experience is quite
> different than mine. No way to use a ohm meter or LCR bridge to

> determine if 6146 tube has suffered any damage.
>
>
> In 10 years I have had 2 rigs across the bench that arced somehow from
> the Anode to the Control grid as opposed to the beam forming plates.
> Now that is not pretty as it causes a lot of damage to everything in
> the FG and bias circuit including damage to the final board, the ALC
> amp circuit, AF board molex connectors, the bias pot ruined, and all
> the way back to -C supply. I have not seen an Anode to SG arc over
> that was evident.
>
>
> It is possible to have a 6146 arc over and incur no detectable tube
> damage and many folks replace the cathode resistors and try the tubes
> again and will experience no problems after that. I do not do that. I
> dont trust them. I DC hi-pot and if tube wont hold off 2000vdc to
> 2500vdc I wont put in my rig. Remember with RF drive you are seeing
> approx 1600 volt anode swing.
>
>
> I think I mentioned that I have hi-potted spare 6146 tubes and seen
> excessive leakage at 1000vdc and then "cooked" them in an old DX-60
> overnite and hi-potted again and seen improvement up to around
> 1500vdc. Not sure why this occurs unless the elevated temperatures
> causes what remaining barium that is flashed on the glass envelope to
> be more reactive? I have no clue why leakage improves somewhat after
> "cooking". you would think that cooking might even drive out more
> occluded gas? However, I have never been able to take any 6146 that
> wont hold off at least 2000vdc and improve it by cooking for any
> amount of time. Can "cook or getter" until the cows come home and wont
> lower the leakage current.
>
>
> So it is up to each individual if they want to try the finals again
> after an arc over that has resulted in cathode meter shunts popping
> open. Now if they have popped open due to thermal runaway that is a
> different matter. Almost always the finals are destroyed. There has
> been element melting and sagging and internal shorts introduced.
>
>
> In my opinion you cannot prevent arc over, but can prevent and limit
> damage by installing protection circuits such as the ones I have
> proposed and installed in my personal rigs.
>
>
> Terry K9TW
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

47559. Wanted to buy.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-07 16:02:20 UTC
From: <jweigh@...>
Topic: 47559 Message: 47559

I'm looking for a good DG-5 digital display and cable to buy for my TS 520S. If anyone has one
please contact me at jweigh at gmail dot com with pertinent details.
Thanks, Jerry K4GEW

47560. Re: [TS-520_820_530_830] Re: Motorola 6146Bs

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 06:57:26 UTC
From: Chris Maness
Topic: 47483 Message: 47560

Yes, as I dig through my tube box, if I see one of those with a smokey colored top, I toss it because I know it is gassy beyond cure.

Chris
On Feb 7, 2014 6:03 PM, <wagstw46@...> wrote:

>
>
> Yes I think you are correct it is due to the remaining barium on the flash
> on the glass envelope. But why doesnt it react with the gasses that have
> leached out while sitting at room temperature? Why does it take elevated
> temperature to accelerate this?
>
>
> Only reason that they use high RF induction is to cause very high current
> in the getter ring near end of draw down to cause the nickel shield liner
> "weak link" on the getter ring to rupture and expel or flash the barium on
> the glass envelope. After that the barium and doping elements inside the
> getter ring do nothing.
>
>
> I suspect it is as you say the result of the action with the barium in
> the flashed coating that remains there to contain any occluded gas that
> leaks out over long time. Just dont understand the need for filament
> heating.
>
>
> I once saw a video where the fellow took a perfectly good tube with
> flashed getter and cut the glass tit off the top of the tube envelop and
> you could watch the flash coating slowly turn to white powder as the
> atmosphere that entered the tube was oxidized by that residual barium. A
> very telling experiment. No heating required for that action.
>
>
> Terry K9TW
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>
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47561. Meter Problem with Kenwood TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 06:29:38 UTC
From: <big_argus@...>
Topic: 47561 Message: 47561

Today I received a decent Kenwood TS-820S I purchased on EBay. The iInside was a bit dusty, looking as if no one's been inside of it since new. All frequencies read proper, so it hasn't been hi-jacked for a CB rig and it had the original Trio SSB & CW filters already installed. All slugs appear to have never been touched. Overall the radio appears to be in excellent shape as seller described with one exception, the meter for RF, ALC, HV, etc.... No mater what position I place the meter selector in, it reads what appears to be the ALC function. If I turn the RF gain all the way down the meter reads full scale, as I turn it up the meter heads towards the bottom of the scale and pumps in relation to any signal the radio is receiving.

Neither the user manual or the service manual has much info about the meter other than the general operation and just a couple of mentions in the troubleshooting guide concerning non-operation for 2 or 3 functions. The block diagrams and schematics aren't much help either (just got some new glasses yesterday and that might be part of my problem reading the schematics). I checked inside for a possible lose connector or relay that had come out of it's socket and found nothing amiss.

I'm a new ham with this being my first HF radio and first radio period with more than simple adjustments for basic functions, so I'm at a bit of a loss with this problem. I do have some long term experience in professional audio electronics and computers, so I'm not totally illiterate with a lot of what's going on here (I've built several recording studios over the last 30 yrs and maintained, rebuilt large format mixing consoles & tape machines). I'm not quite ready for "No Time For Sargents" type percussive maintenance either, you know, spit in the back of it and womp it real good. Any help in pointing to a solution or in the general area of one would be greatly appreciated.

James
KG5AAQ

47562. RE: Vaccum tubes, Getter Flash, and other vacuum tube discussions

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 13:02:32 UTC
From: <wagstw46@...>
Topic: 47465 Message: 47562

Mike:

If I can find the video I will post it that shows normal brown black coloration on top of a used miniature tube and the getter ring oriented horizontal at top of tube that produced the flash deposit on the glass. It still has the typical dark color material even after having years of service.

Point the guy was showing that after the initial gettering the deposited barium was still active and would address any subsequent off gassing for many years as long as didnt have any gross atmosphere in leakage at the seals.

The guy takes a pair of dykes and cuts off the sealing tit and leaves camera on the tube and very slowly that dark brown/black coating turns milk white. I cant remember how long it took but as I recall it was pretty quick as that is a lot of atmosphere in-leakage many many times more than would result in internal metals and ceramics off gassing during life of the tube.

I have also watched these guys build vacuum tubes in their garages and most of them break open old TV vacuum tubes (horizontal damper tubes) and break the getter ring off and look at it with magnification to see if the nickel sheath is pretty much in tact other than at the break from the initial RF induction heating to see if has sufficient barium to be installed in their home made tube and be heated near end of draw down and flash their home made tube. Very fascinating stuff to watch.

Too me one of the things that is under appreciated is the tooling that it takes in the automated process. Mullard has really good video series on the process.

Terry K9TW

47563. Re: [TS-520_820_530_830] Meter Problem with Kenwood TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 13:16:25 UTC
From: CROOKS David
Topic: 47561 Message: 47563

James,

In receive, the meter is just an S-meter.
In transmit, it shows the other parameters.

In RECEIVE, set your POWER switch to ON, HEATER switch to OFF, METER to HV. Flip the SEND switch up for a few seconds and observe the HV reading. (red scale should read between 8 to 10). Switch SEND down to REC. Report back.

Dave f4eyk

47564. RE: Meter Problem with Kenwood TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 13:37:39 UTC
From: <wagstw46@...>
Topic: 47561 Message: 47564

James:

You will love this rig. It is a design and engineering marvel.

Think about it a minute and no need to consult the schematic just yet, but can do that after thinking about it.

In Receive mode the meter is measuring the AGC bus voltage no matter what position you place the meter switch in. It does that as the meter is being connected to the AGC bus thru a normally closed (NC) contact on the Aux relay. Some folks call this the TR relay and the other relay the ANT relay.

1. In receive if you flip to Ip there would be nothing to display as the final tubes are turned off by the cut off bias applied to the control grids. There would be no reason or useful information to be gained by ever looking at IP in Rx mode

2. In receiver if you flip to HV you could monitor the B+ or anode voltage as it is on the tubes at all times, but it is meaningless as not required for Rx mode. Again this is controlled by relay contact.

3. In receive if you flip to RF there would be nothing to read. RF position samples the RF output voltage at your S0-239 connector and nothing there with no RF drive in Rx mode. This position will be used to load your rig in lieu of an external wattmeter.

4. Lastly you would never place meter in Compression position in Rx mode as you are not speaking in to the microphone and modulating the radio. This meter position will be used in Tx mode when you turn on the RF compressor and modulate the rig. Typically not used unless chasing DX.

So what you describe is normal. No matter what position you place the meter switch in Rx mode the meter is measuring the voltage on the AGC bus as the Aux relay closing coil is not energized and relay contacts are as you would find them with relay sitting on the shelf. That AGC bus voltage is approx 3.2 vdc (where ever you have set RF-1) and the meter displaying zero unless you turn the RF gain pot down or if you receive an off air or Marker signal (25khz xtal calibrator). When that happens the meter will read up scale as it is a FET based reverse reading voltmeter and is displaying the voltage level that is now lower than 3.2vdc.

Now armed with this dig in to the schematic and study this to validate what I have told you..

Terry K9TW

47565. Re: [TS-520_820_530_830] REACTIVATING OR RECONDITIONING A TUBE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 14:03:44 UTC
From: AI4WM Bill
Topic: 47483 Message: 47565

The last paragraph makes a great point. I've been conditioning tubes for several decades, mostly boadcast tubes, but with the supply of good new old stock tubes dwindling (even NOS tubes generally need a burn-in period now since many have been sitting decades) it is good practice to do the conditioning in a device and a place where if the smoke flys the fire danger will not burn down the house and the hazardous gasses will not sicken or kill its occupants if the rig will be left unattended over night.

I've never had a rig smoke from conditioning tubes, but the photo proves it can happen.

73,
Bill
AI4WM

On Friday, February 7, 2014 3:32 PM, Jan Servaites <jservaites@...> wrote:

There's much info posted on the web. I have made a few setups to
perform reactivation of glass, and as well as ceramic tubes following
these guidelines on PA0FRI's webpage:
http://pa0fri.home.xs4all.nl/Lineairs/Tubes%20reconditioning/tube%20reconditioning.htm
Configure the tube into a diode and check its conduction as a test.
Yes, its not a complete characterization of the tube, especially a
tetrode, but its easy to do. I have tested quite a few 572b's
triodes to sort out the good and the worn out ones.
Jan N8CBX

47566. RE: Meter Problem with Kenwood TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 14:07:20 UTC
From: <wagstw46@...>
Topic: 47561 Message: 47566

James

For #2 what I was trying to say is it would be technically possible to have the HV position read in Rx mode, but little would be gained by it as the final tube anode voltage is not used for anything in receive mode. You need to know if it is available in TX mode and what level it is with no RF drive and with RF drive. So if you think about it you should not expect any indication in the HV meter position in Rx mode.

Terry K9TW

47567. RE: REACTIVATING OR RECONDITIONING A TUBE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 14:19:00 UTC
From: <wagstw46@...>
Topic: 47483 Message: 47567

Here is a simple 6146 tester you can build that has been around for some time. It essentially configures tube as a diode as well (control grid and cathode tied and anode and SG tied).

I only caution there is more to testing them than checking emission.

https://groups.yahoo.com/neo/groups/Amateur-repairs/files/_TEST%20EQUIPMENT/

Terry K9TW

47568. Re: [TS-520_820_530_830] Dayton Hamvention lectures

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 14:24:31 UTC
From: Mark Gilger
Topic: 47454 Message: 47568

Ok, ya, let me know what you find out. Evan,
K9SQG has a contact that he was going to forward
his email address to me, but one-on-one contact
is always best. Probably too late to do anything
this year, but not to early to be thinking about next.

Mark

At 04:55 PM 2/7/2014, Jan Servaites wrote:
>
>
>Mark,
>I'm now getting through all my emails and read this one.
>Yes, I'm a DARA member and the club has it's
>member meeting tonight (1st Friday of each
>month), and I'll find the chairman and ask about
>a time slot. It would be great to have a slot
>before or after the Drake lecture.
>Jan N8CBX
>
> Mark Gilger wrote (was TS-530S SSB filter adjustment success! topic):
>>
>>
>>I think all those suggestions Terry made are
>>great. The Q&A session has alway been good and
>>can occupy by itself 15+ minutes. Maybe Jan is
>>even a member of the Dayton group and could be
>>the front man to get us a spot? What say Jan???
>>
>

47569. Re: [TS-520_820_530_830] RE: Meter Problem with Kenwood TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 14:32:54 UTC
From: W5RKL
Topic: 47561 Message: 47569

The 820's meter switch positions are disabled in receive by relay terminals RL-3.

The meter displays variations in the receiver's AGC circuit (S Units) in receive. None of the meter switch settings are active in receive.

Heathkit displays the final tube's HV in their SB-100 series transceivers and SB-400 series transmitters in both standby (receive) and transmit. The HV is not used in any other circuit than to provide plate voltage to the 6146 final tubes. So what useful purpose is there by displaying the final tube's HV in receive since both final tubes are biased to cut off???

73
Mike W5RKL

On 2/8/2014 8:07 AM, wagstw46@... wrote:
>
> James
>
>
> For #2 what I was trying to say is it would be technically possible
> to have the HV position read in Rx mode, but little would be gained by
> it as the final tube anode voltage is not used for anything in receive
> mode. You need to know if it is available in TX mode and what level it
> is with no RF drive and with RF drive. So if you think about it you
> should not expect any indication in the HV meter position in Rx mode.
>
>
> Terry K9TW
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

47570. Re: [TS-520_820_530_830] RE: Meter Problem with Kenwood TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 15:13:09 UTC
From: <wagstw46@...>
Topic: 47561 Message: 47570

Mike are you posing the question to me?

What I was trying to do without telling him to read the manual which by the way is very good advice for any new KW hybrid owner is to "think" about what they are looking at and what would be a logical expectation for what they perceive as a problem. Before doing that I would read the manual. Then if still confused and thinking about it doesnt help then ask the group.

Sometimes the manual could have a little more meat on the bones and that is the case with the TS820 when it talks about meter positions. It never really explains that the ALC position in Rx mode is the S-meter position nor does it say that all other meter positions are the S-meter in Rx mode. It talks a lot about the ALC function. Maybe they should have labeled that meter position AGC/ALC?

I was trying to tell him that when thinking about it of course is technically possible to display HV in Rx mode and I did not want to confuse him by my original comments that he should expect to see HV displayed in Rx mode on his 820 as it really would not be very useful as it serves no purpose in Rx mode.

Probably at this early stage should have just said that the meter switch displays S-units in all positions in Rx mode and what he was seeing as a problem was normal operation and not tried to explain why. Hopefully why will come sooner than later.

Terry K9TW

47571. Re: [TS-520_820_530_830] RE: Meter Problem with Kenwood TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 15:18:36 UTC
From: <rrmvargo@...>
Topic: 47561 Message: 47571

So what useful purpose is there by displaying the final tube's HV in receive since both final tubes are biased to cut off???

My worthless 2 cents on your question: To see if the HV section is working (at all) when a dummy load or antenna is not available. Like maybe at a swap or venue not conducive to full testing of the transmitter.

73 Bob W8RMV

47572. Re: [TS-520_820_530_830] RE: Meter Problem with Kenwood TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 15:39:39 UTC
From: <wagstw46@...>
Topic: 47561 Message: 47572

There are at minimum two things you need to know about the HV

1. That it is 900vdc and not 450vdc or less

2. That it is capable of typical regulation level of a voltage doubler anode supply under approx 200ma load.

Yes you can validate #1 in Rx mode, but you need Tx mode for #2.

Also because you have 900vdc displayed at the meter does not mean you have it on the anodes of the tubes.

Kind of sorry I brought it up. Trying to teach a way of thinking and studying these radios and wrote a confusing step. Yes it is perfectly logical to expect to see HV indication in Rx mode and some rigs do just that, but not KW hybrids and not really as useful in RX mode as it is in TX mode.

Never meant to start a discussion on the merits of being able to read HV in Rx mode. We all have better things to do than that.

Sorry about that.

Terry K9TW

47573. Re: [TS-520_820_530_830] RE: Meter Problem with Kenwood TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 17:47:57 UTC
From: Mike W5RKL
Topic: 47561 Message: 47573

No Terry, the post was to the members who may not know the meter switch is disabled in receive. I should have made that clear when I posted my comment, sorry about that.

For those who don't know the meter displays only variations in the receiver's AGC circuit in receive as outlined below. You can follow the comments below by studying each of the KW hybrid schematics.

TS-520/TS-520S/TS-520SE relay RL2-2 terminals disables the meter switch in receive. The meter is connected to Q8 on the IF Unit board through relay terminals RL2-2. Transmit ALC circuit is disconnected by relay terminals RL1-1, to the left of the IF Unit board on the schematic. Relay RL1-1 feeds variations in the output of the receiver's AGC circuit to the IF Unit's "AGL" terminal on the IF Unit through relay RL1-1 which controls the gain of the IF stage.

TS-820 relay RL2-3 terminals disables the meter switch in receive. The meter is connected to the collector of Q5 on the IF Unit, displaying variations in the receiver's AGC circuit. The ALC circuit is disconnected to the meter's ALC switch terminals by the Relay Unit plug RL-3 pins 1 and 2 and relay terminals RL-14.

TS-530 relay RL-1 IF Unit relay terminals between IF Unit plug 10 pins 2, and 3 disable the meter switch in receive. The IF Unit relay RL-1 terminals, plug 10 between pins 2 and 3 connect the meter to the collector of IF Unit Q8. The ALC is disable by the relay terminals to the right of IF Unit Q19, located in the middle of the IF Unit board schematic, on the IF Unit board. The meter display only variations in AGC voltage based on the strength of the receive signal applied to the IF amplifier is displayed on the meter.

TS-830 relay RL-1 on the AF Unit board controls the meter connection to the meter switch, plug 7 pin 6 through relay RL-1 terminals to AF Unit board plug 10 pin 6 (SM). The meter is connected to IF Unit plug 9 pin 2 (SM) which connects to the collector of IF Unit Q12. Transmit ALC is disabled by the AF Unit relay RL1 terminal on plug 7 pin 2 (TM - Transmit Meter).

Sorry for the confusion.

73
Mike W5RKL

On 2/8/2014 9:13 AM, wagstw46@... wrote:
>
> Mike are you posing the question to me?
>

>
> What I was trying to do without telling him to read the manual which
> by the way is very good advice for any new KW hybrid owner is to
> "think" about what they are looking at and what would be a logical
> expectation for what they perceive as a problem. Before doing that I
> would read the manual. Then if still confused and thinking about it
> doesnt help then ask the group.
>
>
> Sometimes the manual could have a little more meat on the bones and
> that is the case with the TS820 when it talks about meter positions.
> It never really explains that the ALC position in Rx mode is the
> S-meter position nor does it say that all other meter positions are
> the S-meter in Rx mode. It talks a lot about the ALC function. Maybe
> they should have labeled that meter position AGC/ALC?
>
>
> I was trying to tell him that when thinking about it of course is
> technically possible to display HV in Rx mode and I did not want to
> confuse him by my original comments that he should expect to see HV
> displayed in Rx mode on his 820 as it really would not be very useful
> as it serves no purpose in Rx mode.
>
>
> Probably at this early stage should have just said that the meter
> switch displays S-units in all positions in Rx mode and what he was
> seeing as a problem was normal operation and not tried to explain why.
> Hopefully why will come sooner than later.
>
>
> Terry K9TW
>
>

47574. TS-830S Gold and Factory-installed filters

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 13:38:58 UTC
From: <mpocciotti@...>
Topic: 47574 Message: 47574

Hello everyone,

I know this has been discussed here before, but I think I have new information on the subject.
As you have read on a previous topic, I was lucky to find a NEW TS-830S that has been in storage for 30 years (or more). For all practical matters it is a new unit. It is also a Gold Label, but it didn't come with the optional filters installed.
Please, check the article on my blog and the pictures
http://ts830s.blogspot.com.br/2014/02/ts-830s-gold-label-and-factory.html
http://ts830s.blogspot.com.br/2014/02/ts-830s-gold-label-and-factory.html

Please, let me know what you think.

73!

Marcio Pocciotti
PY2592SWL

47575. RE: Motorola 6146Bs

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 14:57:41 UTC
From: <glene77is@...>
Topic: 47483 Message: 47575

to Mike W5RKL

Thanks for the response, with measurements.

The 150W run was a short test series of "V" in CW mode.
I noticed immediate flat-topping of power as a quick increase of Carrier was done, then key-up.

I really appreciate the following data You wrote:
quote/
Heathkit designed their ICAS Class AB1 6146 based final amplifiers with plate voltages of approximately +820VDC from their HP/PS 23 power supplies. My SB-100 which has a pair of 6146As, when tuned up into a 50 ohm dummy load for maximum input power, the grid current is at 2.5ma per tube (5ma total),)grid current remains stable), and plate current is at approximately 225ma with 730VDC plate voltage which equates to approximately 165 watts DC input and approximately 98.5 watts "output" (60% efficiency) to the antenna/tuner.

No need to push for more power, 98 watts is more than enough to work anyone I can hear. I work into Japan with a simple 40 meter inverted vee up 25 feet and 98 watts output. I have an AL-811 (3 tube version) but I don't use it that often, don't need it.
/quote

All the guys would do well to use a conservative Power Level.
The 6146 Tubes would last much longer at 66W EPO.

The Kenwood 830 is a "Cadillac" amongst older transceivers.
.

Glen KK4LPG

47576. RE: Meter Problem with Kenwood TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 15:02:22 UTC
From: <big_argus@...>
Topic: 47561 Message: 47576

Thanks a bunch everybody! I was thinking in the back of my head that some meter functions might not be available until the radio was put into transmit mode, but wasn't sure. We used a long wire to check the receive function of the radio since the only proper transmit antenna I have is a 2m/70cm Slim- Jim. My weekend ended yesterday, so it will be next week before we can put up another antenna. At the advice of some long-time Hams I know we're going with a multi-band dipole starting with 80m & 40m, adding other bands later. This also makes me feel I got a good deal on the radio. I've been reading a couple of horror stories here about butchered radios on EBay that CBer's had tried to convert, so I was a bit apprehensive for a moment.

Once I won the bid on the radio, I've been purchasing spares/replacement parts. I've already picked up new mic connectors, lamps, VFO plug, and NOS sets of the 12BY7A and 6146B tubes. I'm also building a paint can dummy load, just waiting for a few of the remaining parts to arrive.

Thanks again for all the great replies!

73

James
KG5AAQ

47577. RE: Meter Problem with Kenwood TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 17:37:47 UTC
From: <big_argus@...>
Topic: 47561 Message: 47577

Thanks for all the great advice! What got my attention upon first turning on the radio was that the meter immediately went full scale in the HV position, in my experience with audio related stuff this is not a good thing.

I'm at work and don't have much time at the moment, I have a post on my computer at the house waiting for me to hit reply since I got a phone call just before leaving. I'll do that when I get home. LOL!

73
James
KG5AAQ

47578. Re: [TS-520_820_530_830] RE: Meter Problem with Kenwood TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 18:11:37 UTC
From: Mike W5RKL
Topic: 47561 Message: 47578

James,

I just posted a comment that should hopefully clear up all the meter switch position questions in receive.

73
Mike W5RKL

On 2/8/2014 9:02 AM, big_argus@... wrote:
>
> Thanks a bunch everybody! I was thinking in the back of my head that
> some meter functions might not be available until the radio was put
> into transmit mode, but wasn't sure. We used a long wire to check the
> receive function of the radio since the only proper transmit antenna I
> have is a 2m/70cm Slim- Jim. My weekend ended yesterday, so it will be
> next week before we can put up another antenna. At the advice of some
> long-time Hams I know we're going with a multi-band dipole starting
> with 80m & 40m, adding other bands later. This also makes me feel I
> got a good deal on the radio. I've been reading a couple of horror
> stories here about butchered radios on EBay that CBer's had tried to
> convert, so I was a bit apprehensive for a moment.
>
>
> Once I won the bid on the radio, I've been purchasing
> spares/replacement parts. I've already picked up new mic connectors,
> lamps, VFO plug, and NOS sets of the 12BY7A and 6146B tubes. I'm also
> building a paint can dummy load, just waiting for a few of the
> remaining parts to arrive.
>
>
> Thanks again for all the great replies!
>
>
> 73
>
> James
>
> KG5AAQ
>
>

47579. Re: [TS-520_820_530_830] RE: Meter Problem with Kenwood TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 18:34:58 UTC
From: K5MYJ
Topic: 47561 Message: 47579

In the mean time just use your long wire to roam the bands and familiarize yourself with receiving on HF.

40M early evening. 80M late night.
20M and 15M daytime.

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"
----- Original Message -----
From: big_argus@...
To: TS-520_820_530_830@yahoogroups.com
Sent: Saturday, February 08, 2014 7:02 AM
Subject: [TS-520_820_530_830] RE: Meter Problem with Kenwood TS-820S

Thanks a bunch everybody! I was thinking in the back of my head that some meter functions might not be available until the radio was put into transmit mode, but wasn't sure. We used a long wire to check the receive function of the radio since the only proper transmit antenna I have is a 2m/70cm Slim- Jim. My weekend ended yesterday, so it will be next week before we can put up another antenna. At the advice of some long-time Hams I know we're going with a multi-band dipole starting with 80m & 40m, adding other bands later. This also makes me feel I got a good deal on the radio. I've been reading a couple of horror stories here about butchered radios on EBay that CBer's had tried to convert, so I was a bit apprehensive for a moment.

Once I won the bid on the radio, I've been purchasing spares/replacement parts. I've already picked up new mic connectors, lamps, VFO plug, and NOS sets of the 12BY7A and 6146B tubes. I'm also building a paint can dummy load, just waiting for a few of the remaining parts to arrive.

Thanks again for all the great replies!

73

James

KG5AAQ

47580. RE: Meter Problem with Kenwood TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 18:34:29 UTC
From: <rrmvargo@...>
Topic: 47561 Message: 47580

Add my sorry to that. As a learner, I don't always understand the teacher. I am thinking simplistically or maybe practically, where you delve much deeper. Perhaps I should have grasped that. Which leads me to thank all the teachers here. 73 Bob W8RMV

47581. Re: [TS-520_820_530_830] RE: Meter Problem with Kenwood TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 18:37:46 UTC
From: <wagstw46@...>
Topic: 47561 Message: 47581

No problem. I just knew that my original number 2 statement could be read as he should expect to see HV reading in RX mode and I was trying to say that yes logically you could assume that to be the case and is true for some other mfg rigs. Need to do better job of proof reading my responses.

How the AGC bus works and the S-meter works confuses a lot of folks. I read a lot of flat wrong info about it being put out on the other reflectors. Same with ALC. The other day a fellow was asking about why he had no ALC indication on his KW hybrid while loading the rig and an old timer corrected him and told him he should be looking at grid current and not ALC! If you told him max grid current in Class AB1 is approx 45ua he would scratch his head. This is still the best store in town as far as I am concerned.

Terry K9TW

47582. RE: TS-830S Gold and Factory-installed filters

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 19:08:07 UTC
From: <wagstw46@...>
Topic: 47574 Message: 47582

Joe Kenwood was an attempt on Kens part at a joke!

What is the serial number of your new TS830 Gold Emblem rig?

Terry K9TW

47583. RE: Meter Problem with Kenwood TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 19:13:00 UTC
From: <wagstw46@...>
Topic: 47561 Message: 47583

I had a fellow tell me one time....."Terry your problem is you Think too much" Upon reflection I Think he may be correct!

Of course have to be careful not to get into "analysis paralysis" as they say, but I sure do enjoy dissecting these circuits and trying to figure out how they work. Lots of hours measuring and even bread boarding.

I am not sure whether I would enjoy more finding a garage full of NOS parts in Japan or a garage full of the design basis documents? Heck I would take them even if written in Japanese.

Terry K9TW

47584. RE: Meter Problem with Kenwood TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 19:15:54 UTC
From: <wagstw46@...>
Topic: 47561 Message: 47584

James

Make sure you hit that Owners Instruction manual and down load the Service Manual as well. Good to study the Block Diagrams and read the circuit descriptions. Manuals should be dog eared. Dont try loading until you have that dummy load built and tested and connected to rig.

You do need to know that the documentation for this rig for some reason has the most errors. These at times go way beyond typos, grammar, and translation.

OK to gather up all the Mods as well. However, I would not install a single one of them until you come back here and ask about it. Most are voodoo and based on anecdotal reporting from owners who had problems with cause and effect.

Lastly realize there are lethal voltages inside this radio. Been covered here time and time again.

Terry K9TW

47585. RE: Meter Problem with Kenwood TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 19:27:00 UTC
From: <wagstw46@...>
Topic: 47561 Message: 47585

If that is true then you had the rig flipped to Send and the meter in HV position. Should not have gone to FSD but could have gone to over 900vdc. As a new owner I would leave the Heaters off at this time and always make sure rig is not flipped to send or mic locked in PTT position.

I always look at the pictures on Ebay and most of them scare the hell out of me. I see heaters on, send switch to send, CAR level pot turned up, sometimes meter indication in RF or IP positions. I cringe when I see this stuff as it means seller has no clue and rig can be damaged easily. Hopefully no more than the finals, but could damage the RF plate choke. I would never buy one of these unless could get it at parts rig price.

If you saw this when plugging rig in for first time, then I would suggest a very good visual inspection of the PA cage. Take a look and make sure you have correct fuse in the rig as well.

I hope what you saw was the S-meter peg and it will do that on initial power on unless you place rig on dummy load or ground the center pin of your SO-239 rig. I dont like to have mine bang against the peg although it does not seem to hurt the meter after many cycles of that action. Too much to explain why it does it here. Just good practice to use a antenna switch with grounding positions and leave rig there when not in use. Not only to protect the meter but to protect front end from ESD.

Terry K9TW

47586. Re: [TS-520_820_530_830] RE: Meter Problem with Kenwood TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 21:01:25 UTC
From: W5RKL
Topic: 47561 Message: 47586

Everyone,

Some members may have difficulty following the schematic wiring, especially in the TS-830. The TS-830 schematic wiring shows wires coming from a plug pin or terminal that appears to become part of a single wire. For example, look at the 830's Rectifier Unit's "SG2" terminal. A wire comes off the Rectifier Unit's SG2 terminal then is becomes part of what appears to be a "single" wire. That "single wire" which is not a single wire but rather multiple wires, goes up from the Rectifier unit then branches to the "left" to the "SG2" terminal on the Mode switch. The Mode switch "SG2" terminal is the other end of the wire that's connected to the Rectifier Unit's "SG2" terminal.

The key to following the TS-830 schematic wiring is to note the beginning label then follow the wire as it enters the "single wire" until you find the end that should have the same label.

There are some labels that don't have a start and stop label, for example the meter label "M". The meter has only two connections, one to ground (chassis) and the other to the 830's AF Unit board, plug 7 pin 6 labeled "M". Pin 6 connects to one segment of the AF Unit's "SPDT" RL1 relay. The position of the movable relay terminal determines how the meter is connected and the relay moveable terminal only moves/changes position when the relay, RL1 on the AF unit is energized or de-energized.

The meter switch "wiper" is labeled "TM" for "Transmit Meter" which connects to the AF Unit plug 7 pin 2 labeled "TM". TM then connects to a fixed relay terminal on the AF Unit board. The fixed relay terminal is shown in standby/receive. The meter connects to "TM" ONLY when the AF unit relay is "energized" which causes the moveable terminal to switch positions and that only happens when the 830 is switched to transmit. This is how the meter switch is "disabled" in receive and only displays receive S Unit from the IF Unit.

If you follow the other hybrid meter wiring you will see similar wiring and control circuits that switch the meter from S Unit only in receive, to ALC, HV, IP, and RF in transmit.

73
Mike W5RKL

On 2/8/2014 12:11 PM, Mike W5RKL wrote:
>
> James,
>
> I just posted a comment that should hopefully clear up all the meter
> switch position questions in receive.

>
> 73
> Mike W5RKL
>
>
> On 2/8/2014 9:02 AM, big_argus@... wrote:
>>
>> Thanks a bunch everybody! I was thinking in the back of my head that
>> some meter functions might not be available until the radio was put
>> into transmit mode, but wasn't sure. We used a long wire to check the
>> receive function of the radio since the only proper transmit antenna
>> I have is a 2m/70cm Slim- Jim. My weekend ended yesterday, so it will
>> be next week before we can put up another antenna. At the advice of
>> some long-time Hams I know we're going with a multi-band dipole
>> starting with 80m & 40m, adding other bands later. This also makes me
>> feel I got a good deal on the radio. I've been reading a couple of
>> horror stories here about butchered radios on EBay that CBer's had
>> tried to convert, so I was a bit apprehensive for a moment.
>>
>>
>> Once I won the bid on the radio, I've been purchasing
>> spares/replacement parts. I've already picked up new mic connectors,
>> lamps, VFO plug, and NOS sets of the 12BY7A and 6146B tubes. I'm also
>> building a paint can dummy load, just waiting for a few of the
>> remaining parts to arrive.
>>
>>
>> Thanks again for all the great replies!
>>
>>
>> 73
>>
>> James
>>
>> KG5AAQ
>>
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

47587. Re: [TS-520_820_530_830] RE: Meter Problem with Kenwood TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 21:52:45 UTC
From: <wagstw46@...>
Topic: 47561 Message: 47587

Very good point Mike. A schematic or an elementary diagram is never intended to be an as-built drawing. It shows how it works electrically.

You need a wiring diagram to see the actual routing of the wires. Very seldom does a radio manufacturer provide a complete wiring diagram. May get a chart that shows the termination points and colors and designators if you are lucky. Also you can not rely on color code conventions. In electrical control panel design always get a wiring diagram in addition to an elementary (electrical version of our schematics).

So points that may be shown inches away or on other side of the schematic can actually be landed at the same physical location in the radio.

Terry K9TW

47588. Re: [TS-520_820_530_830] RE: TS-830S Gold and Factory-installed filters

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 22:30:10 UTC
From: Craig Roberts
Topic: 47574 Message: 47588

> /Terry sez: "Joe Kenwood was an attempt on Ken's part at a joke!"/
>
Wha-a-a-a-at?? I suppose you're now going to tell us that the Easter Bunny isn't real.

Shame!

73,

Craig
W3CRR

47589. Re: [TS-520_820_530_830] RE: Meter Problem with Kenwood TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 23:10:08 UTC
From: CROOKS David
Topic: 47561 Message: 47589

Terry,

"I hope what you saw was the S-meter peg and it will do that on initial power on unless you place rig on dummy load or ground the center pin of your SO-239 rig."

My 820S only pegs on switch-on if in FAST, never in SLOW.
Cheers
Dave f4eyk

47590. RE: Meter Problem with Kenwood TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 19:31:19 UTC
From: <big_argus@...>
Topic: 47561 Message: 47590

I've got both the service and owners manuals on my PC at home.The description of the panel meter above by Mike is extremely useful and appreciated.

40 yrs ago my Dad repaired a broken rectifier tube my cleaning off the glass base and building a solid state rectifier upon it. Worked great, at least until I stuck my finger in it by reaching around the open chassis for leverage to remove a mic cable from the front. My left arm swung like a pendulum for about 20 mins. I've been painfully aware of HV ever since.. LOL!

James
KG5AAQ

47591. Re: [TS-520_820_530_830] Looking For TS-520S Front Panel

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 20:10:31 UTC
From: Neil McKinney
Topic: 47322 Message: 47591

Byron, Did you find a face for the 520?

On Fri, Jan 31, 2014 at 3:23 PM, Byron <bjtatum1@...> wrote:

>
>
> Hello- I am looking for a front panel for the TS-520S if anyone has one,
> in very nice shape, for sale.
> Thanks, Byron WA5THJ
>
>
>

47592. RE: Meter Problem with Kenwood TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 21:38:39 UTC
From: <big_argus@...>
Topic: 47561 Message: 47592

The radio was not on send Terry, the RF gain was up about halfway and there was no signal present (I think the tuner was set to 28 MHz). Once I found a signal on 40m I could bring the RF gain up and make the meter pump downwards with the audio as the ALC should behave..I've done a pretty thorough visual inspection taking some hi-def photos I could blow up in order to see finer detail and nothing seems amiss. As I stated earlier, the internals are dusty, but appear that nobody's ever been inside it.. At this point I think other than the meter lamps not working (I have new replacements) I'm GTG. I have all the parts except for the resistors to build a paint can dummy load with the resistors due in any day. Thanks for the reply.

James
KG5AAQ

47593. Re: [TS-520_820_530_830] ts-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 02:18:34 UTC
From: Michael Sylvester
Topic: 27435 Message: 47593

Originals pop up on eBay occassionaly. There WAS one last week, don't remember cost. It is gone now.
I'll watch for you, if I see one I'll give notice.

Have an excellent weekend All.
Michael///Kd0WSJ

On Friday, February 7, 2014 2:08 PM, "n0dks1@..." <n0dks1@...> wrote:

I hope some one can help, I had a ts-520 given to me. The side panel the covered the controls was missing
if someone could take there panel and trace around it and the holes and mail it to me I would be very grateful
My qrz page is up to date, my call is n0dks .

Thanks
Dave n0dks

47594. Re: [TS-520_820_530_830] RE: Meter Problem with Kenwood TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-08 23:56:46 UTC
From: <wagstw46@...>
Topic: 47561 Message: 47594

We do not know what position the AGC was in and I still hope what he saw was S-meter and not HV. I dont want to turn on any hybrid and find I have a keyed relay.

What you say is true in Slow should see a very rapid but not very far deflection maybe S4. Hard to see as it is rapid. However why have to remember to switch the AGC to a "safe" position anytime you shut the rig down? Also, why exercise that switch more than you need to?

I still submit best practice is to ground the SO-239 or place on dummy load. In the case of the TS820 as you point out it protects the meter if AGC is left in Fast position and it protects the rig from ESD.

Terry K9TW

47595. Re: [TS-520_820_530_830] RE: Meter Problem with Kenwood TS-820S : pegging meter at power on

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-09 01:25:31 UTC
From: CROOKS David
Topic: 47595 Message: 47595

Terry,

My frame of reference is the way I operate my TS-820S "SSB TRANCEIVER".
For me, SSB SLOW is the norm. No need to move the AGC switch.
Of course, other modes may require FAST.

Your last para : Do you mean
if left in FAST, grounding or dummy load protects the meter from pegging and ESD?

My rig pegs on dummy load or grounded when in FAST.
Protected from ESD but not from pegging.

Rig hits S4-ish in SLOW, grounded, dummy or dipole.
On my rig, grounding or dummy load has no effect on pegging.

Grounding against ESD and SLOW against pegging is safest?

Dave

47596. Re: [TS-520_820_530_830] RE: Meter Problem with Kenwood TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-09 02:00:14 UTC
From: W5RKL
Topic: 47561 Message: 47596

James,

You said once you found a signal on 40 meters, you could bring the RF gain up and make the meter pump downwards with the audio as the ALC should behave. The meter, in receive, is not displaying "ALC" but rather displaying variations in receive AGC voltage produced based on the variations in the receive signal level. "ALC" is a transmit only gain control voltage and is only produced during sideband transmit, never in receive.

73
Mike W5RKL

On 2/8/2014 3:38 PM, big_argus@... wrote:
>
> The radio was not on send Terry, the RF gain was up about halfway and
> there was no signal present (I think the tuner was set to 28 MHz).
> Once I found a signal on 40m I could bring the RF gain up and make the
> meter pump downwards with the audio as the ALC should behave..I've
> done a pretty thorough visual inspection taking some hi-def photos I
> could blow up in order to see finer detail and nothing seems amiss. As
> I stated earlier, the internals are dusty, but appear that nobody's
> ever been inside it.. At this point I think other than the meter lamps
> not working (I have new replacements) I'm GTG. I have all the parts
> except for the resistors to build a paint can dummy load with the
> resistors due in any day. Thanks for the reply.
>
>
> James
>
> KG5AAQ
>
>

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http://www.avast.com

47597. TS-520s Aux 12v power loss...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-09 02:07:30 UTC
From: Timothy Johnston
Topic: 47597 Message: 47597

Okay.. made a little mistake tonight.. accidentally shorted the 12v aux out on the back of the rig that is normally used for the DG-5. No more 12v and immediately lost all receive noise. Shut down the rig. Any suggestions before I open her up tomorrow? Anyone have a clue on what might have blown? - fuse, resistor, something else? easy fix? or nightmare?

Tj Johnston, K4TFJ ==========
Webpage: K4TFJ's Internet QTH <http://www.qsl.net/k4tfj/>
YouTube Channel: K4TFJ
Projects<http://www.youtube.com/channel/UCNdqOCz7wlQRwgk76PC_F7w>

47598. Re: [TS-520_820_530_830] TS-520s Aux 12v power loss...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-09 02:46:57 UTC
From: W5RKL
Topic: 47597 Message: 47598

Not sure what happened but appears my response didn't make it.

Anyway, it appears you have blown the 2 amp DC fuse located in the fuse holder directly below the fan on the rear panel. Replace the fuse and you should be back in business.

73
Mike W5RKL

On 2/8/2014 8:07 PM, Timothy Johnston wrote:
> Okay.. made a little mistake tonight.. accidentally shorted the 12v
> aux out on the back of the rig that is normally used for the DG-5. No
> more 12v and immediately lost all receive noise. Shut down the rig.
> Any suggestions before I open her up tomorrow? Anyone have a clue on
> what might have blown? - fuse, resistor, something else? easy fix? or
> nightmare?
>
> Tj Johnston, K4TFJ ==========
> Webpage: K4TFJ's Internet QTH
> <http://www.qsl.net/k4tfj/> YouTube Channel:
> K4TFJ Projects <http://www.youtube.com/channel/UCNdqOCz7wlQRwgk76PC_F7w>
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47599. RE: TS-520s Aux 12v power loss...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-09 03:02:42 UTC
From: <w5rkl@...>
Topic: 47597 Message: 47599

Tim

I suspect you blew the 2 amp fuse in the 12VDC supply output. The fuse is located in the fuse holder directly below the fan on the rear panel.

73
Mike W5RKL

47600. Re: [TS-520_820_530_830] RE: TS-520s Aux 12v power loss...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-09 03:37:32 UTC
From: Wes Will
Topic: 47597 Message: 47600

> I suspect you blew the 2 amp fuse in the 12VDC supply output. The fuse
> is located in the fuse holder directly below the fan on the rear panel.

In internet terms, lolololololol, don't I wish.

I had probably the same thing happen when I plugged in the digital disply to my 520SE.

But, WAIT! The fifty cent fuse was SAVED!

By the noble and heroic sacrifice of the lives of the D8, D9, D10, and D11, as well as their copper traces, on the Rectifier Board (X43-1090-02, IIRC).

If the fuse replacement doesn't fix your problem, examine the rectifier board and look for burnt (as in MISSING) traces, and diodes that are cracked in half, in those positions on the rectifier board.

Good news, they're just any sort of 50v or better silicon rectifier diodes. Cheap replacements. Bad news is that these boards have some of the thinnest, crappiest copper on them you'll ever see. If the diodes went, and if it's anything like what hit mine - TWICE, the traces won't even be there to bother worrying about lifting them from the board substrate when removing and replacing the diodes. Makes removal easy, which could be construed as good news.

More good news, though, is that you can just stick the excess diode leads through the holes and make them do the duty of the missing or lifted (HOPE yours are still intact, be prepared for them to be carbon) copper foil traces on the bottom of the board.

(If they're "only" lifted and not completely toasted, clear nail varnish or coil finishing varnish will stick them down again.)

Now here's a hint, I wish I had followed last summer:

GET PHOTOS OF ALL OF THE CONNECTIONS ON THERE BEFORE YOU PULL A SINGLE WIRE OFF THIS BOARD.

Use a digital camera, take all kinds of photos of the thing as it sits and is hooked up now. Electrons are cheap, snap a LOT of pictures.

THEN unwrap and unsolder and remove all the wires, then pull the board and repair it. Those photos will take the anxiety out of hooking up the high voltage lines and power transformer connections later. Yes, you will mark the wires with flags or something, but those have been know to fall off. I know they did when I was doing this back in the summer. Learn from my mistake, MORE PICTURES.

It isn't my first disassembly for repair of equipment of this and earlier vintage, so it wasn't just me being careless. Things happen to labels sometimes, and it isn't anyone's fault, really.

Digital photos would have made the process quick and easy. Lack of them meant I had to trace each and every wire back to where it connected to somewhere else and then figure out which one that was on the schematic. It sucked. I got rather familiar with the chassis and the circuits, but it still sucked.

Save yourself a lot of anxiety when you flip that switch for the first time. Photos.

I do hope for your sake, however, that it is simply the fuse and you aren't put through that mill. I truly do.

--
Wes Will
N9KDY

47601. Re: [TS-520_820_530_830] RE: Meter Problem with Kenwood TS-820S : pegging meter at power on

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-09 12:06:19 UTC
From: <wagstw46@...>
Topic: 47595 Message: 47601

Dave

You are correct. I made the mistake of trying to go by my memory and notes. The only way to have no or very little upscale movement of the S-meter on initial power on is to have the center pin of the SO-239 grounded and that is typically accomplished thru a grounding antenna switch.

If rig is left in Dummy load positions and AGC in Fast will still get some upscale deflection perhaps as much as 3/4, but wont deflect hard against the stop. In Slow much less pronounced movement. Each model behaves slightly different in that regard.

So if I had a TS820 in the operating position I would always have the antenna switched to grounding position when not in use. I use Alpha Delta switches and they also have built in arc gap and I have coaxial Transi-trap arc gaps outside in my coax entry panel.

Yes my operating practice is to leave AGC in Slow position as I work more SSB than CW and I also leave meter in ALC position as starting point for loading the rig. After peaking the Drive I place meter in IP and generally leave it there as I load with external wattmeter. This allows me to load to max RF output at same time monitor Ip to ensure not exceeding max plate current. I have a peak reading wattmeter so dont need to use the ALC position to properly set the mic gain although from time to time I will switch it back to ALC position in SSB mode.

Sorry for the mistake. I presently have the RF board out of my personal TS820 and cant check what I am reporting, but have not seen a KW hybrid yet that can not prevent banging the needle violently against peg by making sure the antenna input is grounded and to reduce it significantly by placing it on the dummy load.

Whole reason that it pegs is a race between the AGC bus voltage coming up from zero volts and AGC amp transistor driving it down due to off air noise seen by the AGC detector diodes on initial power on. AGC bus line comes up very fast as 9vdc regulator and RF-1 come hot. However off air noise when antenna is connected will be detected instantly and AGC amp will be turned on pulling down the bus voltage. "Dead" AGC bus will be seen by meter FET and meter driver transistor will produce greater than 0.40vdc output voltage which will put indicator on the peg or stop very hard.

So my advice stands to place rig on grounded antenna switch position when not in use and not have to remember to switch AGC to "safe" position. No point in needlessly exercising a switch that is not easy to come by and not easy to install and affords no ESD protection.

Again sorry for the mistake.

Terry K9TW

47602. Re: [TS-520_820_530_830] RE: Meter Problem with Kenwood TS-820S : pegging meter at power on

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-09 12:54:04 UTC
From: <wagstw46@...>
Topic: 47595 Message: 47602

Dave:

I was thinking about my rig and forgot I had customers TS820 here that is awaiting parts to repair the PA cage. Got the PA cage torn apart but can power it on after getting anode caps in the clear.

Connected it thru antenna switch and powered it on and you are 100% Correct and I am flat Wrong.

With the antenna switch grounded still get S-meter needle against the peg in Fast AGC position. Perhaps not as violently but still against the stop.

So as you point out only way to prevent this is to leave AGC switch in Slow position.

I would still leave antenna switch in ground position to protect against ESD.

Will look at schematic to see what is going on. Must be a knot in the line from RF-1 to the AGC bus! Only way to peg the meter is to have very low AGC bus voltage on power on combined with charging the AGC time constant caps. I dont think the AGC time constant caps are that much different between the models, but I dont know for sure. Pretty familiar with them in the TS530/TS830 rigs (and will find differences depending on rigs serial number).

Gives me something to do after I wash out the taste of that humble pie! .

Dave 10 ----------Terry Zero!

73s Terry
K9TW

47603. RE: Meter Problem with Kenwood TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-09 05:02:12 UTC
From: <big_argus@...>
Topic: 47561 Message: 47603

My bad. I think I've got it. I'm used to dealing with some forms of compression/level limiting under the acronym ALC (Automatic Level Control). As I understand you to say, ALC is for compression/limiting of the transmitted signal where as AGC (Automatic Gain Control) is for the receive signal. I've still a bit to learn about this. I probably meant to say AGC as I was seeing a downward movement of the meter in response to an increase in level of the received signal. This is a problem I had understanding the nomanclature in the manual for the panel meter as it was extremely brief and limited in scope for it's operation/usage.

James
KG5AAQ

47604. Re: [TS-520_820_530_830] Looking For TS-520S Front Panel

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-09 05:12:46 UTC
From: Byron Tatum
Topic: 47322 Message: 47604

Hello Neil-
  Yes, I found one that was satisfactory. However, if you have a very nice one I would be still interested.
    Thanks, Byron

From: Neil McKinney <nrmyear2010@...>
To: TS-520_820_530_830@yahoogroups.com
Sent: Saturday, February 8, 2014 2:10 PM
Subject: Re: [TS-520_820_530_830] Looking For TS-520S Front Panel

Byron, Did you find a face for the 520?
On Fri, Jan 31, 2014 at 3:23 PM, Byron <bjtatum1@...> wrote:

>
>Hello- I am looking for a front panel for the TS-520S if anyone has one, in very nice shape, for sale.
>Thanks, Byron WA5THJ
>
>

47605. RE: Meter Problem with Kenwood TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-09 06:17:21 UTC
From: <big_argus@...>
Topic: 47561 Message: 47605

OK! I feel like I've finally got this figured out and at this point I feel like there may not be a problem at all, just my fears over this radio not being in good shape for the price I paid (I got it for a bit less than other examples available on EBay, including ones that had known issues). I initially contacted an old Ham buddy of mine on how to check this radio out once I got it in. His instructions for setting up the radio and checking the receive section were spot on with one exception; He told me to set the RF gain at "6" on the knob before turning it on. This caused the panel meter to deflect to full scale where I expected a low value with no signal present and rising upon the presence of a signal as it should. The old photostat copy of the manual I had was blurred, almost blank in some places and I missed a key piece of information upon reading it. That was to set the RF gain control "Full Clockwise/Maximum Value" under normal conditions in order for the S-Meter to properly read receive signal strength values. Taking the advice of one of the previous posters in this thread in getting a better copy of the manual in PDF format, I was able to find this information under section # 4.5 "RF GAIN" which that page was further down in the manual and missing in my copy along with a couple of other pages. Without reading this and catching it in the advice from "Terry K9TW" as to what the meter was actually reading; "voltage on the AGC bus" instead of an analog 'VU" type voltage generated from the presence of an audio signal as I'm used to, I never would have figured it out. I appreciate all the advice given here and from Terry in particular. I also feel like a dunce for inducing all this wasted bandwidth when if I had sought out better information in the first place it wouldn't have happened. If it's any consolation, I did learn quite a bit from this conversation.

Major 73's for all here!

James
KG5AAQ

---In TS-520_820_530_830@yahoogroups.com, <wagstw46@...> wrote:

James

For #2 what I was trying to say is it would be technically possible to have the HV position read in Rx mode, but little would be gained by it as the final tube anode voltage is not used for anything in receive mode. You need to know if it is available in TX mode and what level it is with no RF drive and with RF drive. So if you think about it you should not expect any indication in the HV meter position in Rx mode.

Terry K9TW

47606. RE: Meter Problem with Kenwood TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-09 16:14:03 UTC
From: <wagstw46@...>
Topic: 47561 Message: 47606

James:

Not complaining but that would have been nice bit of info in your original post!

No problem the ALC and AGC work differently in the KW hybrids from what most people are use to. It is a little hard to keep straight in your head. Both are very high impedance busses or rails that supply a DC control voltage to gate 2 of dual gate mosfets that are used in the IF and RF gain controlled stages.

Nominal voltage depending on model is 3.2vdc to 3.6vdc supplied by the AVR board and set by RF-1 trimmer pot. At some point you should check output of your AVR to ensure you have 9.0vdc and 3.5vdc.

At this level of control voltage the AGC and ALC amps are turned on to max gain. When you turn RF gain pot down you are simply are reducing the bus voltage which in turn lowers the gain of the mosfet amps. When the bus voltage goes down the S-meter (in Rx) and the ALC meter (in TX) goes up scale. This is confusing point for some. They use a FET based voltmeter so that the bus doesnt see the gate of the FET and is not pulled down trying to monitor the bus voltage.

Other way as Mike W5RKL reported is to receive the Marker signal or off air signals and the AGC detector diodes on the IF board will turn on the AGC amp transistor. This transistor collector is hanging on to the AGC bus and since it is fed by a 2.2 meg resistor it is very high Z and when the transistor is biased on it lowers the AGC bus in response to the detection of the off air signals.

There are some subtleties like -6vdc back bias to set AGC threshold and AGC fast and slow positions that select different RC time constants and of course a AGC off that uses -6vdc to hold off the AGC amp transistor.

RF pot gain is there so you dont have to listen to back ground noise when copying strong signals like on 80 or 40. Just run it back to comfortable listening level. Can also turn on the RF attenuator.

Have fun

Terry K9TW

47607. Re: [TS-520_820_530_830] RE: TS-520s Aux 12v power loss...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-09 17:52:52 UTC
From: Timothy Johnston
Topic: 47597 Message: 47607

UPDATE!: The problem was the 2A fuse below the fan! Thank you all (Wes...
you scared the @#$% out of me! LOL)

Tj Johnston, K4TFJ ==========
Webpage: K4TFJ's Internet QTH <http://www.qsl.net/k4tfj/>
YouTube Channel: K4TFJ
Projects<http://www.youtube.com/channel/UCNdqOCz7wlQRwgk76PC_F7w>

On Sat, Feb 8, 2014 at 10:37 PM, Wes Will <wwill@...> wrote:

>
>
> > I suspect you blew the 2 amp fuse in the 12VDC supply output. The fuse
> > is located in the fuse holder directly below the fan on the rear panel.
>
> In internet terms, lolololololol, don't I wish.
>
> I had probably the same thing happen when I plugged in the digital
> disply to my 520SE.
>
> But, WAIT! The fifty cent fuse was SAVED!
>
> By the noble and heroic sacrifice of the lives of the D8, D9, D10, and
> D11, as well as their copper traces, on the Rectifier Board
> (X43-1090-02, IIRC).
>
> If the fuse replacement doesn't fix your problem, examine the rectifier
> board and look for burnt (as in MISSING) traces, and diodes that are
> cracked in half, in those positions on the rectifier board.
>
> Good news, they're just any sort of 50v or better silicon rectifier
> diodes. Cheap replacements. Bad news is that these boards have some of
> the thinnest, crappiest copper on them you'll ever see. If the diodes
> went, and if it's anything like what hit mine - TWICE, the traces won't
> even be there to bother worrying about lifting them from the board
> substrate when removing and replacing the diodes. Makes removal easy,
> which could be construed as good news.
>
> More good news, though, is that you can just stick the excess diode
> leads through the holes and make them do the duty of the missing or
> lifted (HOPE yours are still intact, be prepared for them to be carbon)
> copper foil traces on the bottom of the board.
>
> (If they're "only" lifted and not completely toasted, clear nail varnish
> or coil finishing varnish will stick them down again.)
>

> Now here's a hint, I wish I had followed last summer:
>
> GET PHOTOS OF ALL OF THE CONNECTIONS ON THERE BEFORE YOU PULL A SINGLE
> WIRE OFF THIS BOARD.
>
> Use a digital camera, take all kinds of photos of the thing as it sits
> and is hooked up now. Electrons are cheap, snap a LOT of pictures.
>
> THEN unwrap and unsolder and remove all the wires, then pull the board
> and repair it. Those photos will take the anxiety out of hooking up the
> high voltage lines and power transformer connections later. Yes, you
> will mark the wires with flags or something, but those have been know to
> fall off. I know they did when I was doing this back in the summer.
> Learn from my mistake, MORE PICTURES.
>
> It isn't my first disassembly for repair of equipment of this and
> earlier vintage, so it wasn't just me being careless. Things happen to
> labels sometimes, and it isn't anyone's fault, really.
>
> Digital photos would have made the process quick and easy. Lack of them
> meant I had to trace each and every wire back to where it connected to
> somewhere else and then figure out which one that was on the schematic.
> It sucked. I got rather familiar with the chassis and the circuits,
> but it still sucked.
>
> Save yourself a lot of anxiety when you flip that switch for the first
> time. Photos.
>
> I do hope for your sake, however, that it is simply the fuse and you
> aren't put through that mill. I truly do.
>
> --
> Wes Will
> N9KDY
>
>
>

47608. Re: [TS-520_820_530_830] RE: Meter Problem with Kenwood TS-820S : pegging meter at power on

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-09 18:45:51 UTC
From: CROOKS David
Topic: 47595 Message: 47608

Terry,

Due to this discussion, I've now connected ANT2 on my AT-230 to ground.
That will be my OFF protection against (small)ESD.

Your description of the race between the opposing forces is excellent and hopefully will encourage others to think it through.

Our fragile uA meters appreciate your patience!

Thanks for the continued guidance,
Dave f4eyk

47609. KENWOOD HYBRID NET UPDATE (February 8, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-09 20:04:41 UTC
From: Mark Gilger
Topic: 47609 Message: 47609

Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

The net recently celebrated it□s 2nd year in existence on November 1st, 2013. The yearly check-in totals are posted at the bottom of this message. It showed we had a 10% increase in our Saturday check-ins and an 8% on Sunday as compared to the 2012 check-ins.

The Saturday 40 meter net had 22 stations checking in under good band conditions. There were no new stations checking in. We had the following number of radios checking in.

5 running TS-520(x)
1 running TS-530(x)
4 running TS-820(x)
4 running TS-830S

I was running my TS-940s with an L4B amplifier.

The Sunday 20 meter net we had 25 check-in under good band conditions. There were 10 no new stations checking in today, VA3IED, NR9O, KF7RCE, KG7DPK, KJ4BPH, KB9LUQ, KK6FXK, AND N0RGJ. We had the following number of radios.

3 running TS-520(x)
1 running TS-530(x)
6 running TS-820(x)
2 running TS-830S

I was running my TS-820/R-820 twins with an L4B amplifier.

We have been having several people checking in regularly with their TS-430, TS-440, and TS-940□s, which of course is not a hybrid, although over 30+ years old. Everyone is welcome as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a net control station, please send me an email.

Currently it's just myself, WB2KNR and WB0SGA. I would like to get several more. If we do, we can alternate so everyone might be on a 3-4 week rotation. It's a lot of fun and a good way to make sure you station is optimized.

For anyone that has not heard, we have a new web site that WB4HFN is hosting. He currently has a very nice site for Drake, Collins and Heathkit and now Kenwood Hybrids. Good quality manuals plus sale flyers and brochures will be found here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 ☐ Oct. 2012 Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins

November 2013, Saturday☐s net total = 94, Sunday☐s total = 85
December 2013, Saturday☐s net total = 87, Sunday☐s total = 103
January 2014, Saturday☐s net total = 71, Sunday☐s total = 82
February 2014, Saturday☐s net total = 41, Sunday☐s total = 37 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

47610. RE: TS-830S Gold and Factory-installed filters

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-09 18:56:17 UTC
From: <mpocciotti@...>
Topic: 47574 Message: 47610

Hi,

I thought it was real.

The serial number is 2020148.

73,

Marcio
PY2592SWL

47611. RE: TS-830S Gold and Factory-installed filters

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-09 21:15:28 UTC
From: <wagstw46@...>
Topic: 47574 Message: 47611

Marcio:

You are not alone. No big deal. If you call or write Ken and talk to him he most likely wont admit to anything one way or the other. I have looked him in the eye and all I can say is you can tell a lot about how factual something is when you can see facial expressions.

OK just curious about the serial number. I kind of try to keep a list of serial numbers and years rigs were purchased and best if the person can produce the original invoice or a copy of it. More than one opinion when the first Gold Emblem was sold. I am still not 100% certain . You will find people have installed the gold emblem VFOs in early 1 million series rigs. I try to avoid the 1 million series 830s.

Not a lot of changes as you go up in the years but there are some. I have been wanting a pristine 6 or 7 million series, but dont want to have to mortgage the house! I own a 2 mil and 4 mil full filtered golds that I installed the filters including changing out the Murata K5 for the K12 (not any real noticeable change to the ear).

Only advice I can give is be very careful about installing any of the mods for the TS830 from any source. Come here and ask for an opinion before you do that.

Enjoy your treasure. Hopefully it will provide you with many hours of trouble free enjoyment.

Terry K9TW

47612. Re: [TS-520_820_530_830] RE: Meter Problem with Kenwood TS-820S : pegging meter at power on

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-09 21:31:54 UTC
From: <wagstw46@...>
Topic: 47595 Message: 47612

Yes only other thing you can do to protect against ESD would be to disconnect the coax off back of rig. However you still have the station safety ground and power line ground and if strike is close enough you can have what is called ground potential rise.

So really only fool proof way is to unplug from the ac power, remove the antenna, and the chassis ground, and put in box and store in your closet. My luck house would burn down!

Unplugging from the AC power and grounding the SO-239 should be sufficient but lightning follows no rules. I turn off master switch but do not unplug from the line.

If I am home and lightning is near by I have unscrewed the coax even with my grounding antenna switches and coaxial arc gaps. It looks kind of silly to see a coax cable stuffed in to a glass jar on the bench!

Some fellows go outside and disconnect and throw the coax into the yard!

By the way I took a quick look at the AGC circuits on the 820 and the 830 and some differences. They both use a dual time constant circuit with a capacitor in parallel with resistor and that capacitor on the 820 is a .01uf and on the 830 it varies from .022 to .33 uf. Both use same 2.2 meg to feed the bus. Biggest difference is the 820 has a fast switching diode in RFG line. They are doing that to try to get the meter indication not to drift up or down scale after you move the RF gain pot.

With the TS830 depending on whether in Slow or Fast AGC when you move the RF gain pot there will be overshoot. Either slow drift up or drift down scale. This annoys some operators who want to set the meter to say 10 over. They have to adjust the pot twice. Just a little nuisance. Try it with your TS820 and I think it will not have any drift or very little but cant remember how it behaves in Fast or Slow.

Other than that a quick look didnt reveal to me a reason why the TS820 meter behaves different that a TS830 on initial turn on with the SO-239 grounded. I am just glad that my 830 does not bang hard against the peg when SO-239 is grounded. I just have to remember to power on and then switch the antenna switch to what ever antenna or dummy load I will use.

Terry K9TW

47613. F/S VFO-120

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-09 22:46:59 UTC
From: <davidcuttler@...>
Topic: 47613 Message: 47613

I am selling my VFO-120 remote VFO.
It is in excellent operating condition, and come with the connection cable.
The VFO was originally purchased for my TS-130SE, but when I sold the 130, I kept the VFO to use with my TS-830S where it served me well. The 830S is presently in storage as a backup rig, and I may end up selling it too so the VFO is for sale.

There are no boxes, or manual, but that can be downloaded off the internet.

The price is 135.00 shipped to the lower 48 via USPS, and I prefer PayPal.
I will give it a few days before listing it on QTH.

47614. Re: [TS-520_820_530_830] RE: TS-520s Aux 12v power loss...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-09 23:05:19 UTC
From: Wes Will
Topic: 47597 Message: 47614

On 02/09/2014 11:52 AM, Timothy Johnston wrote:
>
>
> UPDATE!: The problem was the 2A fuse below the fan! Thank you all
> (Wes... you scared the @#$% out of me! LOL)

Well, I did say I hoped it was the fuse, at least twice in there. Here is the last one:

>> I do hope for your sake, however, that it is simply the fuse and you
>> aren't put through that mill. I truly do.

You weren't. Lucky you, be happy. <-;

Because I am. I'm quite happy that your fuse fused rather than your diodes. I hope nobody ever has to go through that same goat-rodeo. First 'magic smoke-out' was a loose case screw the previous owner had let rattle around in there, and which when they transported it to me had wedged somewhere that it could short one of the HV lines onto the output of the 14V power section. Poof. Smells nasty. Fuse is still intact, and yes Terry, I checked, both of them are the "right" ones.

Next time I missed a lick somehow, still don't know what happened, when I plugged the digital display into the back of the rig and flipped the main power. Same section of the rectifier board, gone AWOL in a puff of nasty smoke. Copper traces MIA presumed KIA. Just -gone- and nothing left but 4 cracked-in-half diodes and a bit of carbon on the bottom of the board where the copper used to hang out.

After the second melted rectifier board, I still haven't put that digital display back on the aux output on the back of the rig. I power it from a bench supply instead. It doesn't draw more power than it should, it's a current-limited bench supply and the -5 pulls less than one ampere total, even counting inrush. I've got the current limit run down to the 1-amp mark, and the meters never show it getting to the 1-amp mark either.

But I'm still NOT going to put it on the rig.

Twice I had to rebuild that rectifier board. I even made a mask from the picture of the board on the pdf files, printed it in the heaviest toner thickness my old HP laserjet 4 will produce, ironed it onto a clad piece of PC board, and etched a new one.

I don't wish to do it all a third time.

Drilled it, populated it, soldered it all down, connected it to the transformer inputs, checked the outputs (all good), but was too chicken ever to put the wires down on the outputs. I still have it, for a spare if I ever get really adventurous.

(I had gotten a pull board from a list member, and put that one in instead, and found out that there were differences in various boards that were NOT reflected in changed model numbers. Missing parts and circuits, such as the side-tone bias, that had to be hand-wired in with parts hanging off at odd angles.)

So, again, felicitations to you, and posthumous congratulations to a valiant and selfless fuse, that did it's duty and gave the ultimate sacrifice any component can make for it's circuitry.

(Yeah, I'm often quite a weisenheimer. Your point?)

--
Wes Will
N9KDY

47615. Re: [TS-520_820_530_830] RE: TS-520s Aux 12v power loss...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-09 23:20:04 UTC
From: W5RKL
Topic: 47597 Message: 47615

I'm glad it was the fuse Tim.

Have fun.

73
Mike W5RKL

On 2/9/2014 11:52 AM, Timothy Johnston wrote:
> UPDATE!: The problem was the 2A fuse below the fan! Thank you all
> (Wes... you scared the @#$% out of me! LOL)
>
>
> Tj Johnston, K4TFJ ==========
> Webpage: K4TFJ's Internet QTH
> <http://www.qsl.net/k4tfj/> YouTube Channel:
> K4TFJ Projects <http://www.youtube.com/channel/UCNdqOCz7wlQRwgk76PC_F7w>
>
>
> On Sat, Feb 8, 2014 at 10:37 PM, Wes Will <wwill@...
> <mailto:wwill@...>> wrote:
>
> > I suspect you blew the 2 amp fuse in the 12VDC supply output.
> The fuse
> > is located in the fuse holder directly below the fan on the rear
> panel.
>
> In internet terms, lolololololol, don't I wish.
>
> I had probably the same thing happen when I plugged in the digital
> disply to my 520SE.
>
> But, WAIT! The fifty cent fuse was SAVED!
>
> By the noble and heroic sacrifice of the lives of the D8, D9, D10, and
> D11, as well as their copper traces, on the Rectifier Board
> (X43-1090-02, IIRC).
>
> If the fuse replacement doesn't fix your problem, examine the
> rectifier
> board and look for burnt (as in MISSING) traces, and diodes that are
> cracked in half, in those positions on the rectifier board.
>
> Good news, they're just any sort of 50v or better silicon rectifier
> diodes. Cheap replacements. Bad news is that these boards have some of
> the thinnest, crappiest copper on them you'll ever see. If the diodes
> went, and if it's anything like what hit mine - TWICE, the traces

> won't
> even be there to bother worrying about lifting them from the board
> substrate when removing and replacing the diodes. Makes removal easy,
> which could be construed as good news.
>
> More good news, though, is that you can just stick the excess diode
> leads through the holes and make them do the duty of the missing or
> lifted (HOPE yours are still intact, be prepared for them to be
> carbon)
> copper foil traces on the bottom of the board.
>
> (If they're "only" lifted and not completely toasted, clear nail
> varnish
> or coil finishing varnish will stick them down again.)
>
> Now here's a hint, I wish I had followed last summer:
>
> GET PHOTOS OF ALL OF THE CONNECTIONS ON THERE BEFORE YOU PULL A SINGLE
> WIRE OFF THIS BOARD.
>
> Use a digital camera, take all kinds of photos of the thing as it sits
> and is hooked up now. Electrons are cheap, snap a LOT of pictures.
>
> THEN unwrap and unsolder and remove all the wires, then pull the board
> and repair it. Those photos will take the anxiety out of hooking
> up the
> high voltage lines and power transformer connections later. Yes, you
> will mark the wires with flags or something, but those have been
> know to
> fall off. I know they did when I was doing this back in the summer.
> Learn from my mistake, MORE PICTURES.
>
> It isn't my first disassembly for repair of equipment of this and
> earlier vintage, so it wasn't just me being careless. Things happen to
> labels sometimes, and it isn't anyone's fault, really.
>
> Digital photos would have made the process quick and easy. Lack of
> them
> meant I had to trace each and every wire back to where it connected to
> somewhere else and then figure out which one that was on the
> schematic.
> It sucked. I got rather familiar with the chassis and the circuits,
> but it still sucked.
>
> Save yourself a lot of anxiety when you flip that switch for the first
> time. Photos.
>
> I do hope for your sake, however, that it is simply the fuse and you
> aren't put through that mill. I truly do.
>

> --
> Wes Will
> N9KDY
>
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

47616. $1250 TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-09 23:30:00 UTC
From: <wagstw46@...>
Topic: 47616 Message: 47616

Well we now have a TS-830 listed on Ebay for $1250.00. It looks very clean cosmetically and seller says he just aligned it. Interestingly the picture shows the Display Hold switch depressed. Makes one wonder?

Terry K9TW

47617. Re: [TS-520_820_530_830] $1250 TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-09 23:32:25 UTC
From: Ron
Topic: 47616 Message: 47617

Sounds like he's proud of it !!!!

Ron KK4PWF

On Feb 9, 2014, at 5:30 PM, <wagstw46@...> wrote:

>
>
> Well we now have a TS-830 listed on Ebay for $1250.00. It looks very clean cosmetically and seller says he just aligned it. Interestingly the picture shows the Display Hold switch depressed. Makes one wonder?
>
> Terry K9TW
>
>
>

47618. RE: [TS-520_820_530_830] $1250 TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-10 01:05:30 UTC
From: fpath fpath
Topic: 47616 Message: 47618

Well I know where there is brand new still in shop (business closed) he still wants $A1250.00, $3200 for TL922 etc. It will be staying there for a long time at those prices of until owner turn SK and equip goes to auction. Along with some nice other stuff, when I went there I cleaned it off and covered it with plastic cover, couldnt see any components through the grill for the amount of dust.

I just sold a completely restored, 830s original gold label for $A750.00, that included full paint restoration of covers, front panel full restoration, full HV parts, new relay etc. Was 1 million series, included original boxes, manual and small accessories back (unopened). This gold label never had the filters installed, got if from original owner with receipts.

73s

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: bozo231@...
Date: Sun, 9 Feb 2014 17:32:25 -0600
Subject: Re: [TS-520_820_530_830] $1250 TS-830

Sounds like he's proud of it !!!!

Ron KK4PWF

On Feb 9, 2014, at 5:30 PM, <wagstw46@...> wrote:

Well we now have a TS-830 listed on Ebay for $1250.00. It looks very clean cosmetically and seller says he just aligned it. Interestingly the picture shows the Display Hold switch depressed. Makes one wonder?

Terry K9TW

47619. RE: [TS-520_820_530_830]

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-10 12:32:21 UTC
From: fpath fpath
Topic: 47238 Message: 47619

Hi Guys,

Whilst this maybe slightly off topic, if anyone is looking for FT5ZM, he is on 14.185 tx and 14.250rx, looking for stateside contacts via the longpath. 9+30db at my QTH, worked him on 5 watts. It's his last night as US operator, station closes on 12/02/2014

73s

Dave

VK5PDL

47620. Re: [TS-520_820_530_830] $1250 TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-10 01:25:29 UTC
From: <mpocciotti@...>
Topic: 47616 Message: 47620

Hello,

It seems a little overpriced, doesn't it?
I payed only $760 on mine, on Nov-2013, and it is new.

http://www.ebay.com/itm/KENWOOD-HF-TRANSCEIVER-TS-830S-IN-EXCELLENT-CONDITION-WORKS-FINE-w-BOX-MIC-PW-/221317443827?ru=http%3A%2F%2Fwww.ebay.com%2Fsch%2Fi.html%3F_sacat%3D0%26_from%3DR40%26_nkw%3D221317443827%26_rdc%3D1&nma=true&si=zRc50CfqIXoLhe5Z6D8P6emWtVU%253D&orig_cvip=true&rt=nc&_trksid=p2047675.l2557 http://www.ebay.com/itm/KENWOOD-HF-TRANSCEIVER-TS-830S-IN-EXCELLENT-CONDITION-WORKS-FINE-w-BOX-MIC-PW-/221317443827?ru=http%3A%2F%2Fwww.ebay.com%2Fsch%2Fi.html%3F_sacat%3D0%26_from%3DR40%26_nkw%3D221317443827%26_rdc%3D1&nma=true&si=zRc50CfqIXoLhe5Z6D8P6emWtVU%253D&orig_cvip=true&rt=nc&_trksid=p2047675.l2557

Cheers,

Marcio
PY2592SWL

47621. TS-830-s VFO shaft binding

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-10 03:30:37 UTC
From: <glene77is@...>
Topic: 47621 Message: 47621

Guys,
Has anybody ever had their VFO shaft/knob bind and be very tight in turning ?
This happened suddenly. No gradual symptom.
I will start looking through the manuals, and other docs I've collected.
Glen KK4LPG

47622. RE: TS-830-s VFO shaft binding

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-10 14:18:02 UTC
From: <wagstw46@...>
Topic: 47621 Message: 47622

No but easy to pull and inspect. Not very likely there is foreign material involved.

Down power and remove the 4 metric allen head screws. If has never been removed these will have been locktited and if so suggest you back them off and run back and forth as you continue to back them out to clear the threads of the glue so you dont strip them.

As you pull the VFO away from front panel the travel will be limited by the red wires powering the lamps on each side. These are in silicone rubber boots that just slide in a U shaped slot on each side of VFO so just slide them forward and remove.

Pull VFO forward until the miniature molex connector on rear panel can be unplugged.

Now remove the 4 small shield can screws and the one larger shield can screw and slide the shield off. Notice if the aluminum shield tape has been removed and curling up or missing. If so you know VFO trimmers have been accessed previously. Not a big deal just nice to know.

You can now inspect the gear train.

After clearing the obstruction or repairing the gear train. I would lube the entire mechanism with Tri-FLow applied by artist brush. Also clean the air variable rotor shaft wiper with Deoxit and run thru its range. Can also loosen and gently reseat the PC board screws. Be careful working around the air variable and the tank coil. Some folks use denatured alcohol at this time to clean the PC board and blow off with canned air. I never find the board to have any accumulation of greasy dirt.

When you re-install the shield can be very careful not to cross thread the very small metric screws. If you get any resistance just back out and start over.

When you slide VFO back in and slip the pilot lamps back in to the slots on each side and then re-seat the VFO in the front panel be careful not to pinch the red power leads on each side. I have found them pinched and crushed flat.

When lubing the gear train easy access to apply to all the gears including the anti-back lash and pinions. There is no front bearing. It is bushed. I usually orient the VFO on encdand apply Tri-flow around the shaft to get some to run down in to the bushing area. Just dont go crazy applying the Tri-flow as it only takes a very lite coating.

Terry K9TW

47623. Re: [TS-520_820_530_830] RE: TS-830S Gold and Factory-installed filters

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-09 02:26:24 UTC
From: Michael Sylvester
Topic: 47574 Message: 47623

Marcio,
I think I would have been happy to have outbid you!!
I watched that sale on eBay.
It was very hard to not get involved in the bidding.
Nice radios, I finally made time to finish a pretty clean one I bought September 9th in Lebanon, Missouri, for $150!!!
Picked up 2- TS-530S units and this GL. Also a nice Kenwood SM-220 monitor, an LA-1000-A Amplifier. Came home with a trunk full of gear.
My first Hamfest. Kinda like being a gun enthusiast for 45 years and just going to your first gun show. Lotsa fun.

"Historia Magistra Vitae Est"
Michael///KD0WSJ

On Saturday, February 8, 2014 4:30 PM, Craig Roberts <crgrbrts@...> wrote:

>Terry sez: "Joe Kenwood was an attempt on Ken's part at a joke!"
Wha-a-a-a-at?? I suppose you're now going to tell us that the Easter Bunny isn't real.

Shame!

73,

Craig
W3CRR

47624. Re: [TS-520_820_530_830] RE: TS-830-s VFO shaft binding

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-10 17:03:35 UTC
From: Michael Sylvester
Topic: 47621 Message: 47624

I've found on radios that have been shipped in that if a cup or bowl isn't placed over the tuning dial they get pushed in against the vernier, creating a bind. I've also encountered dials that have loose screws, working their way into the vernier.
Often one of the 2 screws is loose at any one time.
You might check to see if one screw is loose and the other barely holding. The dial may be "walking" towards the radio causing it to bind slightly.
I've never had a VFO out of a TS-830 so I don't know if this even applies to them. Terry's reply is prolly more applicable.

"There is Much Credence in having More Wire and Less Fire"
Michael///KD0WSJ

this post/msg edited as it contained already posted material - WB7UQU

47625. RE: TS-830S Gold and Factory-installed filters

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-10 20:19:30 UTC
From: <ckepus@...>
Topic: 47574 Message: 47625

Hey Terry,

Are you interested in SN's in general or just for tracking the "Golds"? I was curious about my SN so checked my non-Gold 830 and the SN is 6020066; I have the original invoice from AES in Las Vegas dtd 8/5/85...$801.28 out the door. No listing of options. Still haven't removed the covers but based on receiver performnace, it likely only has the SSB filter installed.

BTW, would you please divulge the filter combos you use in your Golds? I'm betting YK88S + Murata K12 for SSB, (tnx Terry, would never have got that one); YK88C and YG455C for CW (?).

Lastly, I'll gobble up a bit more bandwidth with this true tale of service:

There is another invoice in my paperwork from the Kenwood service center dtd 11/24/92:

Description of trouble: " 78 Neutralization. Danger. See letter (letter missing from the paperwork),.Unit vibrates, hums, and lights dim." HMMMM...Isn't that why we love our Kenwoods???? Whats not to like about vibration, humming and pulsating (apparently) dimming lights???? Just to keep things serious, the repair order shows Kenwood service "Installed two new 6146B's and a new plate choke." Their notes state: "Final amplifier tubes were shorted burning out cathode resistors and plate choke. Repaired all defective parts. C19 (AC line filter) broken, replaces, aligned radio."

Repair costs + shipping: $210.46 (for those of you currently servicing KW hybrids, is that about what you charge today?. :-)

73,

Chris
W7JPG

47626. Re: [TS-520_820_530_830] TS-830-s VFO shaft binding

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-10 20:33:17 UTC
From: Mark Gilger
Topic: 47621 Message: 47626

You might want to loosen the two screws holding
the VFO knob on, and move the know out just a
bit. Could have gotten jamed into the skirt and
that's what is causing the binding.

Good luck,
Mark, WB0IQK

At 10:30 PM 2/9/2014, you wrote:
>
>
>Guys,
>
>Has anybody ever had their VFO shaft/knob bind and be very tight in turning ?
>This happened suddenly. No gradual symptom.
>I will start looking through the manuals, and other docs I've collected.
>Glen KK4LPG
>

47627. Re: [TS-520_820_530_830] RE: TS-830S Gold and Factory-installed filters

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-10 20:37:36 UTC
From: Mark Gilger
Topic: 47574 Message: 47627

I'm not sure who sent this email, as there was no name attached. Hum.

Anyway it reminds me that I'm looking for serial numbers and original date of purchase on any Kenwood HYBRID radios. I'm going to create a database and post it on my web site so based on the posted serial number and dates someone can tell the aprox. production date for their radio. It will look similar to what is posted for the Drake stuff http://wb4hfn.com/DRAKE/DrakeSNDatabase-P1.htm

Thanks,
Mark, WB0IQK

At 03:19 PM 2/10/2014, ckepus@... wrote:
>
>
>Hey Terry,
>
>
>Are you interested in SN's in general or just for tracking the
>"Golds"? I was curious about my SN so checked my non-Gold 830 and
>the SN is 6020066; I have the original invoice from AES in Las Vegas
>dtd 8/5/85...$801.28 out the door. No listing of options. Still
>haven't removed the covers but based on receiver performnace, it
>likely only has the SSB filter installed.
>
>
>BTW, would you please divulge the filter combos you use in your
>Golds? I'm betting YK88S + Murata K12 for SSB, (tnx Terry, would
>never have got that one); YK88C and YG455C for CW (?).
>
>
>Lastly, I'll gobble up a bit more bandwidth with this true tale of service:
>
>
>There is another invoice in my paperwork from the Kenwood service
>center dtd 11/24/92:
>
>
>Description of trouble: " 78 Neutralization. Danger. See letter
>(letter missing from the paperwork),.Unit vibrates, hums, and lights
>dim." HMMMM...Isn't that why we love our Kenwoods???? Whats not to
>like about vibration, humming and pulsating (apparently) dimming
>lights???? Just to keep things serious, the repair order shows
>Kenwood service "Installed two new 6146B's and a new plate

>choke." Their notes state: "Final amplifier tubes were shorted
>burning out cathode resistors and plate choke. Repaired all
>defective parts. C19 (AC line filter) broken, replaces, aligned radio."
>
>
>Repair costs + shipping: $210.46 (for those of you currently
>servicing KW hybrids, is that about what you charge today?. :-)
>
>
>73,
>

47628. Re: [TS-520_820_530_830] RE: TS-830S Gold and Factory-installed filters

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-10 20:43:58 UTC
From: Jan Servaites
Topic: 47574 Message: 47628

My Gold 830 (no extra filters by the way) serial number is 2,041,157 (my 530 is in the 1 million)
I can't believe yours is 6 million? Wow.
Mark mentioned about starting a registry for the hybrids. That would be interesting to do.
Jan

ckepus@... wrote:

>
>
> Hey Terry,
>
>
> Are you interested in SN's in general or just for tracking the
> "Golds"? I was curious about my SN so checked my non-Gold 830 and the
> SN is 6020066; I have the original invoice from AES in Las Vegas dtd
> 8/5/85...$801.28 out the door. No listing of options. Still haven't
> removed the covers but based on receiver performnace, it likely only
> has the SSB filter installed.
>
>
>
>

47629. RE: [TS-520_820_530_830] $1250 TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-10 15:23:56 UTC
From: <joe.dale.hardin@...>
Topic: 47616 Message: 47629

Dave, I am curious about how you restored the front panel. Your discussion of the use of acrylic thinner was a help. There doesn't seem to be much info on the do's and don'ts. It would be a great service if you would do a write-up for the files. I am particularly interested in how you tackled to switch labels. Do you know of any method other than silkscreen? Dale KS4NS

47630. RE: TS-830S Gold and Factory-installed filters

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-10 23:54:51 UTC
From: <wagstw46@...>
Topic: 47574 Message: 47630

Chris:

The serial number info you supplied is the only info that is 100% accurate. I see lots of I think, I believe, if my recollection is correct etc. I will take all input I can get my hands on, but love it when can get the Serial number and original dated Invoice.

When Mark is up and running with his data base I will pass on what I have. I dont have a lot.

Jimmy WB2KNR has his info from his purchase of his 1st TS520. I suspect lots of those owners are out there.

Also this subject has been discussed many times on this forum and if you search on "serial number" should find previous discussions.

As to filters I recommend that you follow Kenwoods recommendation in the Owners Instruction manual around page 24 that has the table for the various optional cw filters. Look at the CW4 position and 500hz bandwidth. The two filters listed allows you to make best use of the VBT feature. If VBT osc aligned correctly can adjust pass band from approx 150hz to 500hz. I have these filters in both of my TS830s.

Terry K9TW

47631. Re: [TS-520_820_530_830] RE: TS-830-s VFO shaft binding

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-10 23:56:29 UTC
From: <wagstw46@...>
Topic: 47621 Message: 47631

I missed the part that rig was just shipped to him and could have incurred a blow to the VFO knob?

I thought he said it was a recent new condition?

If the knob set screw was loose and knob worked way toward the VFO he should have started to hear the analog dial scraping at some point in the rotation long before it seized or seriously impeded the rotation. The analog dials typically dont run true and if not adjusted correctly will have an annoying rub at some point in the rotation.

No problem with telling him to loosen the knob allen screw and slide the knob back and try rotating or remove the knob and analog dial and clutch spring and washers and then see if he can turn the shaft by hand. Should be able to do so easily.

Make sure there are two washers. I commonly find that one has been lost. Also good time to take tooth brush and clean all the grooves in the grey analog dial ring. They get pretty cruddy. I just use mild dish washing soap and soft bristle tooth brush.

Terry K9TW

47632. RE: [TS-520_820_530_830] $1250 TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-11 00:37:53 UTC
From: fpath fpath
Topic: 47616 Message: 47632

Dale,

Most of the time I can restore the front panel without too much fuss, just a time issue. However, if the writing around the various controls is heavily worn, then I go radical and completely strip the front panel back to bare metal. Any imperfections in the metal is usually filled, if it is a large foundry issue then I'll use motlen lead and sand back. The the normal priming, undercoat, about 9 ultra fine dry sprayed top coats, and 1 wet sprayed coat. Then I usually leave it for 10 days for the thinners to dry out of the paint. The latext mould goes over the top and then apply the white paint for letters, markings etc. After a week (subject to temp) I will then use 3 different buffing compounds. End result is factory standard facia. This is only if I can't get a real good front facia panel from Bob, KE5FTF, usually just the top edge is chipped \scratched, most important thing in this case is to use good quality painters tape so you dont get any bleed through and take plenty of time to mask.

73s

Dave

VK5PDL

From: joe.dale.hardin@...
To: TS-520_820_530_830@yahoogroups.com
Date: Mon, 10 Feb 2014 07:23:56 -0800
Subject: RE: [TS-520_820_530_830] $1250 TS-830

Dave, I am curious about how you restored the front panel. Your discussion of the use of acrylic thinner was a help. There doesn't seem to be much info on the do's and don'ts. It would be a great service if you would do a write-up for the files. I am particularly interested in how you tackled to switch labels. Do you know of any method other than silkscreen? Dale KS4NS

47633. Re: [TS-520_820_530_830] RE: TS-830-s VFO shaft binding

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-11 02:07:21 UTC
From: <ke5ftf@...>
Topic: 47621 Message: 47633

When I buy any Kenwood hybrid I ask the seller to remove the vfo knob & bag it...
Also remove the feet & bag them....
You can have the old gal damaged if thinley bubble wrapped & floated in peanuts (shifts to bottom)...
Believe me I speak from experience as I have purchased over 100 + hybrids...
A seller will always tell you he knows how to pack... :)
The orginal Kenwood box & outer box is the best though...
Bob
****

47634. RE: TS-830-s VFO shaft binding

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-11 02:20:59 UTC
From: <glene77is@...>
Topic: 47621 Message: 47634

Terry K9TW

A wealth of information. Thanks to all.
No noise prior to the binding, no scraping, no squeling.

I have read my accumulated documention and service manuals.
The only suggestion there was to lube with non-adhearing thin oil,
and then only sparingly.

The exploded drawings matched exactly what Terry has written.

Will order some "DeOxit" and fetch an artist brush for 'lite' lubing.
Had already , gently, removed the Knob, found the two washers & spring intact,
fingered the shaft with no luck in rotating it.

When the procedure begins, I will be careful with the small machine screws,
and go very sparingly on the lube.

When the DeOxit comes in , then I'll get back to this.
Will have to do with my old HW8 for a while.

Thank you all, Glen KK4LPG

---In TS-520_820_530_830@yahoogroups.com, <wagstw46@...> wrote:

I missed the part that rig was just shipped to him and could have incurred a blow to the VFO knob?

I thought he said it was a recent new condition?

If the knob set screw was loose and knob worked way toward the VFO he should have started to hear the analog dial scraping at some point in the rotation long before it seized or seriously impeded the rotation. The analog dials typically dont run true and if not adjusted correctly will have an annoying rub at some point in the rotation.

No problem with telling him to loosen the knob allen screw and slide the knob back and try rotating or remove the knob and analog dial and clutch spring and washers and then see if he can turn the shaft by hand. Should be able to do so easily.

Make sure there are two washers. I commonly find that one has been lost. Also good time to take tooth brush and clean all the grooves in the grey analog dial ring. They get pretty cruddy. I just use mild dish washing soap and soft bristle tooth brush.

Terry K9TW

47635. RE: [TS-520_820_530_830] $1250 TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-11 04:26:03 UTC
From: Lou Blasco
Topic: 47616 Message: 47635

Dave,

I reckon plenty of people would like to know how
you go about restoring or replacing lettering.
Your description doesn't give much away.

Lou
VK3ALB

At 11:37 11/02/2014, you wrote:
>
>
>Dale,
>
>Most of the time I can restore the front panel
>without too much fuss, just a time
>issue. However, if the writing around the
>various controls is heavily worn, then I go
>radical and completely strip the front panel
>back to bare metal. Any imperfections in the
>metal is usually filled, if it is a large
>foundry issue then I'll use motlen lead and sand
>back. The the normal priming, undercoat, about 9
>ultra fine dry sprayed top coats, and 1 wet
>sprayed coat. Then I usually leave it for 10
>days for the thinners to dry out of the
>paint. The latext mould goes over the top and
>then apply the white paint for letters, markings
>etc. After a week (subject to temp) I will then
>use 3 different buffing compounds. End result
>is factory standard facia. This is only if I
>can't get a real good front facia panel from
>Bob, KE5FTF, usually just the top edge is
>chipped \scratched, most important thing in this
>case is to use good quality painters tape so you
>dont get any bleed through and take plenty of time to mask.
>
>73s
>
>Dave
>VK5PDL
>
>
>----------
>From: joe.dale.hardin@...
>To: TS-520_820_530_830@yahoogroups.com

>Date: Mon, 10 Feb 2014 07:23:56 -0800
>Subject: RE: [TS-520_820_530_830] $1250 TS-830
>
>
>
>Dave, I am curious about how you restored the
>front panel. Your discussion of the use of
>acrylic thinner was a help. There doesn't seem
>to be much info on the do's and don'ts. It
>would be a great service if you would do a
>write-up for the files. I am particularly
>interested in how you tackled to switch
>labels. Do you know of any method other than silkscreen? Dale KS4NS
>
>

47636. RE: [TS-520_820_530_830] $1250 TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-11 11:25:38 UTC
From: fpath fpath
Topic: 47616 Message: 47636

Lou,

In regards to the lettering, I only do complete respray\brush of the front panels I restore. The problem is when trying to repair worn painted lettering, unless you do the entire panel, it sticks out like a sore thumb, been there done that. As the latext mould is a very tight fit, I can either spray, screen print or use a very small artist brush. I like the screen printing best, but spraying the letters does give a slightly higher profile. Having the latex moulding\screen is the secret, anyone can then apply paint, cost is prohibited on making moulds unless you have a friend in the industry, which I do and she is fantastic. When spraying, you have to spray dry otherwise the paint will build up on the edges and when the screen is removed it rips the paint. I know a VK2, who restores front panels for the Kenwood TL922, but it is expensive, $250 for replacement front panel with you sending in your worn ones.

73s

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: radio@...
Date: Tue, 11 Feb 2014 15:26:03 +1100
Subject: RE: [TS-520_820_530_830] $1250 TS-830

Dave,

I reckon plenty of people would like to know how you go about restoring or replacing lettering. Your description doesn't give much away.

Lou
VK3ALB

47637. Re: [TS-520_820_530_830] RE: TS-830-s VFO shaft binding

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-11 11:47:49 UTC
From: <wagstw46@...>
Topic: 47621 Message: 47637

Hi Bob:

I have gotten several parts rigs that way because the owner did not know how to pack after telling me that they did. I dont like getting them that way. No reason for it.

I dont understand how you can ship anything without double boxing that allows about 4 inches of crush zone on all 6 sides and the rig heavy bubble wrapped inside another box centered in that crush zone. I would also use double wall (275# test) packing boxes. YES it cost money for those materials. If you have UPS or Fed Ex do it you are looking at around $150 total.

It is sad to see thin cardboard box arrive with exposed rig hanging out of the broken and crushed corner of the box. I have boxes arrive that wont sit flat on floor as the bottoms have become convex from weight of the rig.

I dont want to have to spend my time re-packing customers radios so can be safely returned. Not what I signed up for.

Your advice is needed and appreciated.

I wish Ebay had a rating category for how well the seller packed the item you purchased. Means more to me than the cost or how quickly.

Terry K9TW

47638. RE: TS-830-s VFO shaft binding

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-11 12:18:43 UTC
From: <wagstw46@...>
Topic: 47621 Message: 47638

Glen

Let us know what you find as this is very unusual failure. I find them to be able to rotate 360 degrees more often as people remove the pinion shaft stop pin and pop off the movable plates insulating spacer/stop bar.(CB mod). Yes a lite coat of Tri-flow will make it operate silky smooth.

Dont lubricate the air variable rotor shaft wipers just clean both of them. On the front one it is important to use small artist brush or tip of a toothpick to apply drop of Deoxit as you risk washing out the ball and race lube if you spray at the wiper. These are nickel plated wipers and never see any green or black oxide on them. Can use a tooth pick and put a touch of grease in the ball and race at shaft end but not much access is available to it. Take a look at the rotor centering lock screw on the outboard end. It should be locked with white paint. Never seen one cracked. Do see this problem on the Plate Load air variable caps and if this screw backs out it allows the rotor to shift and the plates to rub.

Only other freaky thing would be for a lamp to have come out of its slot and lamp and leads lodged in the works? Not sure there would be enough slack for that to happen.

Your findings will be of interest to all who work on their own rigs.

Terry K9TW

47639. Re: [TS-520_820_530_830] RE: TS-830S Gold and Factory-installed filters

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-11 14:22:03 UTC
From: KB1TCD
Topic: 47574 Message: 47639

Hello everyone,

I have an 830-S Gold w/SN 2010517.
It has the CW Filter YK-88C and the SSB Filter YK-88S1.
It does not have the CW Cristal Filter and it doesn't look like one has been removed, but then again...
I did not buy the radio new, so I can't tell for a fact whether it came w/the filter or not.

73 from Mid Coast, Maine!

Jose Douglas - KB1TCD

God Bless our Republic, we need it!

47640. RE: TS-830-s VFO shaft binding

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-11 16:06:58 UTC
From: <glene77is@...>
Topic: 47621 Message: 47640

Terry K9TW

Fine Business.
Thank you for sharing your insight.

Will explore a little further, but really want the DeOxit liquid & brush in hand first.
Liquid touched with toothpick is great idea.
Spray spreads too much, and can not count the amount that reachs a part.

Yep, blow off the cap plates, but never touch.
My HW8 has VFO cap that was touched, and it is off plus/minus 3 KHz
as I tune across a band, comparing with Knwd digital readout.

Will check the rotor centering lock screw for white paint.
Ideally, no play should be on this shaft.

If anything is amiss, I will post to you in this group.

Glen KK4LPG

47641. TS-830S White / Gold Label

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-11 17:41:13 UTC
From: <paw_paw44036@...>
Topic: 47641 Message: 47641

I wrote to Kenwood about this as I have heard to many stories on this subject. Here is the answer I got.
I called and asked permission to post this and Leo said OK.
Hello William,

Thank You for your e-mail.
There is no difference mechanically between the Kenwood TS-830S with the white lettering label, and the TS-830S with the gold lettering label under the main VFO knob. The gold was just a later version. There was also an optional Deluxe Gold VFO knob called the KB-1 that can be installed on the TS-830S.
Sincerely, Leo
Kenwood Amateur Radio Customer Support
Kenwood U.S.A.
2201 E. Dominguez Street
Long Beach, CA 90810
Phone: (310) 639-4200 prompts 4, and 1
Fax: (310) 537-8235

E-Mail: kcc-amateur@kenwoodusa.com mailto:kcc-amateur@kenwoodusa.com

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-----Original Message-----

Sent: Monday, February 10, 2014 7:21 AM

To: KCC-Amateur

Subject: WEB: KW Support - xxxxxxxxxxxxxxxxxx mailto:wd8osj@wd8osj.com- WGP-438G
Confirmation Number: WGP-438G
Area: Amateur Radio
Topic: Support

Product Model: TS-830 S

Product of Interest: Other

Where did you see the Kenwood Products?:Referred By Others
Subject: TS-830S gold line
Body: I have heard many stories as to the Gold Line of the 830. I would like to know the truth as to just what the Gold Line was. Mine has 3 filters on the IF board. Some say it came with all the filters installed. Some say it was with the optional AM strip. The serial

number on my 830s is 3080247. I would also like to know just what options came with my rig. Love this radio.

Some private information has been deleted.

47642. Re: [TS-520_820_530_830] RE: TS-830-s VFO shaft binding

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-11 18:29:34 UTC
From: W5RKL
Topic: 47621 Message: 47642

Glen,

You said

"/*blow off the cap plates, but never touch*//*
//
*//*My HW8 has VFO cap that was touched. and it is off plus/minus 3 Khz"*/

I could be wrong but it appears you may be suggesting that simply touching the plates of the HW-8'a VFO's variable capacitor caused your HW-8's VFO output frequency to change by 3Khz. If that's true, I have to disagree with you.

Simply touching the plates of a VFO's variable capacitor with your finger or a brush during a cleaning process that does not cause the variable plates to bend or move more into or out of the fixed plates (plate moving more into or out of the fixed plates is referred to as meshing of the capacitor plates), will not result in a 3Khz change in the HW-8's VFO output frequency.

73
Mike W5RKL

On 2/11/2014 10:06 AM, glene77is@... wrote:
>
> Terry K9TW
>
> Fine Business.
>
> Thank you for sharing your insight.
>
>
> Will explore a little further, but really want the DeOxit liquid &
> brush in hand first.
>
> Liquid touched with toothpick is great idea.
>
> Spray spreads too much, and can not count the amount that reachs a part.
>
>
> Yep, blow off the cap plates, but never touch.
>
> My HW8 has VFO cap that was touched, and it is off plus/minus 3 KHz
>
> as I tune across a band, comparing with Knwd digital readout.
>

>
> Will check the rotor centering lock screw for white paint.
>
> Ideally, no play should be on this shaft.
>
>
> If anything is amiss, I will post to you in this group.
>
>
> Glen KK4LPG
>
>
>
>
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

47643. Re: [TS-520_820_530_830] RE: TS-830-s VFO shaft binding

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-11 20:08:01 UTC
From: Wes Will
Topic: 47621 Message: 47643

> My HW8 has VFO cap that was touched, and it is off plus/minus 3 KHz

"Touched" ?? Or mashed it in and bent a plate? If the plate was just touched it cannot have affected anything electrically. Now, if they BENT a plate or moved that one plate around on the shaft (further in than the rest, or further out) when whoever-it-was "touched" it, then there might be some changes.

I think I would look a little further afield than this for the source of the 3KHz you are seeing. Perhaps a realignment might be in order here? Check for a gnat stuck on one of the plates of the capacitor? Or maybe one of the coils in the circuit also has a shifted winding, weakened insulation or something like that. (If just one turn shorted, it might cause just about 3K of inaccuracy....)

I cannot come up with any causal relationship between simply touching (no bends) a capacitor plate and any change in circuit operation (once you remove the offending finger from the circuit, of course). Anyone who can explain this, since fingerprint oil won't account for it) please elaborate, the physicist in me wants to hear it.

--
wes will
N9KDY

47644. Serial number and purchase date in the Group Database

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-11 21:34:14 UTC
From: <james27613@...>
Topic: 47644 Message: 47644

Hi, I placed a list in the database section of our group a while ago,
some members forgot to enter the serial number of their radio.

This may help others determine when the radio was built.

73 james ke4drn

47645. Re: [TS-520_820_530_830] RE: TS-830-s VFO shaft binding

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-11 21:38:07 UTC
From: <wagstw46@...>
Topic: 47621 Message: 47645

If your HW-8 vfo tuning cap is damaged??? Take a look at this. Oren Elliott is still in business but no idea if they can help you.

http://forums.qrz.com/archive/index.php/t-22785.html

Terry K9TW

47646. Questions about TS520S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-11 22:12:27 UTC
From: <jweigh@...>
Topic: 47646 Message: 47646

Hello all, I need directions on how to R and R a heater switch on the 520S. The switch feels funky and when measuring the temp(hand held infrared meter) through the vent holes onto the glass of the tubes. The tubes show only about 70-73F after about 5-6 mins. of on in a 67F room. The schematic I have is difficult to read so I have not tried to measure voltage at the wire that should bring voltage to the tubes heaters.
Any help will be greatly appreciated.
Thanks, Jerry K4GEW

47647. Re: [TS-520_820_530_830] RE: TS-830-s VFO shaft binding

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-11 22:28:07 UTC
From: <ke5ftf@...>
Topic: 47621 Message: 47647

I have a few nice steady VFO units for the 830S....
Includes the dials & face plate...
Sell them for $55.00 plus my cost to mail...

You may have a bent shaft... :(
Take the vfo knob off & the spring loaded dial...
Turn vfo shaft with your fingers, should not bind on you...
Bob
****

47648. Re: [TS-520_820_530_830] Questions about TS520S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-11 22:59:18 UTC
From: Mike W5RKL
Topic: 47646 Message: 47648

Jerry,

The filament voltage for the final and driver tubes originates from the Rectifier Unit's "12VAC" source. The driver tube, a 12BY7, has a 12VAC filament voltage but the 6146's have 6.3VAC filament voltage.

The 6146 filaments are wired in "series" with 12VAC applied to the front 6146 tube socket's pin 2. Pin 7 is the other end of the filament which is connected to the rear 6146 tube socket pin 2 and pin 7 on the rear 6146 tube socket is connected to the chassis (ground) to complete the filament circuit.

The final tube glass envelope will be somewhat warm but not hot as long as no current is flowing in the tube, meaning the final tubes are biased to cut off. Heat is produced in the tubes when current flows between the cathode and the screens and plates and this only occurs when the 520 is producing RF output in transmit.

73
Mike W5RKL

On 2/11/2014 4:12 PM, jweigh@... wrote:
>
> Hello all, I need directions on how to R and R a heater switch on the
> 520S. The switch feels funky and when measuring the temp(hand held
> infrared meter) through the vent holes onto the glass of the tubes.
> The tubes show only about 70-73F after about 5-6 mins. of on in a 67F
> room. The schematic I have is difficult to read so I have not tried to
> measure voltage at the wire that should bring voltage to the tubes
> heaters.
> Any help will be greatly appreciated.
> Thanks, Jerry K4GEW
>
>

47649. Re: [TS-520_820_530_830] RE: TS-830-s VFO shaft binding

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-12 00:55:38 UTC
From: CROOKS David
Topic: 47621 Message: 47649

Terry,
Nice article.
The mod to add lead shot inside the VFO 'spinner' could whack the rotor vanes in excess of 3 ounces at end of travel.
I'll stick with my lightweight plastic spinner just in case...
Dave

47650. RE: ts-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-12 01:32:59 UTC
From: <roberteleazer@...>
Topic: 27435 Message: 47650

Dave:

Most of those side plates are missing. They are missing on both my 520's

The problem is they used some rather fragile plastic buttons to hold them on and when those break the panel no doubt disappears soon thereafter.

I could make replacement out of aluminum plate but I would first have to devise suitable fasteners. I am thinking about using some Dzus fasteners I have happen to have on hand but have had too much to do to work on it.

Good Luck!

Robert
WB5WSV

47651. RE: ts-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-12 01:34:39 UTC
From: <roberteleazer@...>
Topic: 27435 Message: 47651

Phil:

Well, first could you let us know what configuration you have all the switches in?

Robert
WB5WSV

47652. Re: [TS-520_820_530_830] RE: ts-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-12 02:27:11 UTC
From: W LEWIS
Topic: 27435 Message: 47652

K4EAA has fasteners. $3.99 per set.
Butch Lewis
KØPSA

From: "roberteleazer@..." <roberteleazer@...>
To: TS-520_820_530_830@yahoogroups.com
Sent: Tuesday, February 11, 2014 7:32 PM
Subject: [TS-520_820_530_830] RE: ts-520

Dave:

Most of those side plates are missing. They are missing on both my 520's

The problem is they used some rather fragile plastic buttons to hold them on and when those break the panel no doubt disappears soon thereafter.

I could make replacement out of aluminum plate but I would first have to devise suitable fasteners. I am thinking about using some Dzus fasteners I have happen to have on hand but have had too much to do to work on it.

Good Luck!

Robert
WB5WSV

47653. Re: [TS-520_820_530_830] Questions about TS520S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-12 03:05:47 UTC
From: W5RKL
Topic: 47646 Message: 47653

Jerry,

First, the top and bottom covers along with the front panel must be removed in order to gain access to the paddle switches. The TS-520S service manual, page 35, shows how this is done.

Second, this is not a "RTFM" response so don't take it that way. It's unfortunate but quite often people/hams tend to take offense to people telling them to read the manuals. You cannot properly and safely service your TS-520S without reading the TS-520S service manual.

If you do not have the TS-520S service manual then you can download it free at

http://www.n6wk.com/kenwood/520S_Service.pdf

If you do not have a replacement for the HEATER paddle switch then contact Bob Mansker, ke5ftf at mail dot com, he may have one.

73
Mike W5RKL

On 2/11/2014 4:12 PM, jweigh@... wrote:
>
> Hello all, I need directions on how to R and R a heater switch on the
> 520S. The switch feels funky and when measuring the temp(hand held
> infrared meter) through the vent holes onto the glass of the tubes.
> The tubes show only about 70-73F after about 5-6 mins. of on in a 67F
> room. The schematic I have is difficult to read so I have not tried to
> measure voltage at the wire that should bring voltage to the tubes
> heaters.
> Any help will be greatly appreciated.
> Thanks, Jerry K4GEW
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

47654. RE: F/S VFO-120

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-12 03:39:59 UTC
From: <davidcuttler@...>
Topic: 47613 Message: 47654

The VFO is sold

47655. RE: Serial number and purchase date in the Group Database

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-12 05:20:33 UTC
From: <zl2bgx@...>
Topic: 47644 Message: 47655

```
If it helps- my TS830S Gold is serial 50800xx and purchased on 23rd March 1985.
No additional filters fitted.
73 William ZL2BGX
```

47656. Re: [TS-520_820_530_830] RE: Serial number and purchase date in the Group Database

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-12 05:35:09 UTC
From: Mark Gilger
Topic: 47644 Message: 47656

Thanks Bill, I'll add this to the list that I'm developing.

Mark, WB0IQK

At 12:20 AM 2/12/2014, you wrote:
>
>
>If it helps- my TS830S Gold is serial 50800xx
>and purchased on 23rd March 1985.
>No additional filters fitted.
>73 William ZL2BGX
>

47657. Re: [TS-520_820_530_830] RE: Serial number and purchase date in the Group Database

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-12 06:44:21 UTC
From: Ken MacLeod
Topic: 47657 Message: 47657

Mark,

My TS-520S Serial #732175 with SSB filter and YG-3395C CW filter purchased new 6/13/78 from Webster Radio.

Ken - KI5PM

47658. RE: TS-830-s VFO shaft binding

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-12 04:47:51 UTC
From: <glene77is@...>
Topic: 47621 Message: 47658

.
Bob,
Have so much advice , but yours can be checked first,
since I don't have to wait for any material.
In fact, I did remove the dial and spring and washers.
Twisted the shaft with my fingers, and no luck.

In the morning, I'll think about this again.
In the meantime, just made a contact with
W7GT which is Utah 1253 miles on 1.1 W to a vertical.

Glen KK4LPG

47659. Re: [TS-520_820_530_830] RE: ts-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-12 08:20:17 UTC
From: Thomas Bewick
Topic: 27435 Message: 47659

Ken sells the plastic replacement buttons for the side panel quite
cheap here;

http://www.k4eaa.com/parts.htm

I have a TS-520 with the side panel intact and would be willing to trace it
and send a copy.
I could trace it and scan it into a pdf and email it, but I would be afraid
the size may get off little in the process.
I will trace it on to a card stock of some kind.
*So, David, *n0dks
I will get a copy out to you by the end of week,
I have your address off QRZ.

Robert, WB5WSV
Do you want a copy of the traced panel to use as a template to make
one sent to you too?

73,Tom K2BEW

On Tue, Feb 11, 2014 at 8:32 PM, <roberteleazer@...> wrote:

>
>
> Dave:
>
>
> Most of those side plates are missing. They are missing on both my 520's
>
>
> The problem is they used some rather fragile plastic buttons to hold them
> on and when those break the panel no doubt disappears soon thereafter.
>
>
> I could make replacement out of aluminum plate but I would first have to
> devise suitable fasteners. I am thinking about using some Dzus fasteners I
> have happen to have on hand but have had too much to do to work on it.
>
>
> Good Luck!
>
>
> Robert
>
> WB5WSV
>

>
>

47660. TS-830s - Rectifier Board Diodes D1 - D4

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-12 10:55:58 UTC
From: Robert Allen
Topic: 47660 Message: 47660

Good Morning to All:

Can someone please provide the rating, type etc for
diodes D1 to D4 that are
on the rectifier board?
Looked all over with no
success.
Thanks for your help
Bob
W1ZX

47661. RE: TS-830-s VFO shaft binding

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-12 04:41:04 UTC
From: <glene77is@...>
Topic: 47621 Message: 47661

.
Wes, N9KDY

I get the point.
"Check for a gnat stuck on one of the plates of the capacitor? "

Yeah! That is a Brain Storm to loosen up my ol' thinker !

Well, I was just guessing also, about he 'bent plate from a touch" thing.
I do not limit myself to text-boot solutions, explanations, either.

On the Kenwood,
Need some DeOxit for the switches and some lite lube for the shaft.
And a tooth-pick.
Like Terry suggested.

Glen KK4LPG

47662. Re: [TS-520_820_530_830] RE: ts-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-12 11:46:06 UTC
From: Gordon JC Pearce
Topic: 27435 Message: 47662

On Wed, Feb 12, 2014 at 03:20:17AM -0500, Thomas Bewick wrote:
> Ken sells the plastic replacement buttons for the side panel quite
> cheap here;
>
> http://www.k4eaa.com/parts.htm
>
> I have a TS-520 with the side panel intact and would be willing to trace it
> and send a copy.
> I could trace it and scan it into a pdf and email it, but I would be afraid
> the size may get off little in the process.
> *I will trace it on to a card stock of some kind.*
> *So, David, *n0dks
> I will get a copy out to you by the end of week,
> I have your address off QRZ.

Scan it, alongside a ruler? I could probably do this tonight.

--
Gordonjcp MM0YEQ

47663. Re: [TS-520_820_530_830] TS-830s - Rectifier Board Diodes D1 - D4

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-12 12:25:58 UTC
From: W5RKL
Topic: 47660 Message: 47663

Bob,

D1 thru D4 are used in the KW hybrid's Rectifier Unit's high voltage "voltage doubling" supply. If you do not understand how a voltage doubling supply works then I recommend taking some time and study the ARRL handbook chapter on power supplies.

Diodes D1 thru D4 are simple silicon diodes. They can be substituted using 1N4007s. If one or two of the diodes fail, replace "all 4" diodes with new diodes. Mouser sells them for "14 cents" each. Make sure when replacing them that you insert the "banded lead" in the correct hole. Normally the board's "silk screening" has a wide band on the end of the diode silk screen that indicates the "banded lead" hole. If you install the diodes backwards you can damage the HV supply, including the two HV filter capacitors so pay attention when replacing the diodes!!

73
Mike W5RKL

On 2/12/2014 4:55 AM, Robert Allen wrote:
> Good Morning to All:
>
> Can someone please provide the rating, type etc for diodes D1 to D4
> that are
> on the rectifier board?
> Looked all over with no success.
> Thanks for your help
> Bob
> W1ZX
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

47664. RE: TS-830s - Rectifier Board Diodes D1 - D4

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-12 12:27:51 UTC
From: <wagstw46@...>
Topic: 47660 Message: 47664

Bob

There is nothing special about a V08J diode. A standard 1000piv 1amp 1N4007 silicon rectifier will work just fine. A NTE-125 is a good sub. Just have to make sure that any sub you use the lead diameter is not too large for the hole.

If no electronics store can find them on ebay all the time.

Terry K9TW

47665. Re: [TS-520_820_530_830] RE: Serial number and purchase date in the Group Database

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-12 13:33:32 UTC
From: Mark Gilger
Topic: 47657 Message: 47665

Thanks Ken, I'll add it to the list. I think
yours is the first 520S that I have on the list.

Serial numbers are coming in very slowly, but
eventually I hope to have enough to post on the web page.

http://wb4hfn.com/KENWOOD/KenwoodHomePage.htm

Mark

At 01:44 AM 2/12/2014, you wrote:
>
>
>Mark,
>
>My TS-520S Serial #732175 with SSB filter and
>YG-3395C CW filter purchased new 6/13/78 from Webster Radio.
>
>Ken - KI5PM
>

47666. 6146 Arc Over Protection Mods

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-12 15:20:25 UTC
From: <wagstw46@...>
Topic: 47666 Message: 47666

William Adams WD8OSJ has revised the connections of the type OY glitch resistors in his TS830 after reviewing pictures of my installation. He was able to pull up enough slack in the translucent (white) 900vdc anode supply lead to the PA cage to place the glitch resistors in series with this lead rather than placing the resistors in the output of the HV filter bank. I did not try to pull up slack and was satisfied that I had the resistors at the source of the greatest joule contribution.

Bills change allows the resistors to limit the fault current contribution of the rectifier diodes as well as the filter bank.
He has a nice picture of his installation. Just make sure you open the PA cage and look at the lead where it terminates on the high voltage terminal block near base of the small VHF plate choke to ensure not pulling hard on this connection. If it is being stressed strip down a piece of RG8X or RG58 to obtain a long length of the center conductor to serve as replacement HV lead to replace the factory length.

Also do not be tempted to place back to back diodes across your meter in lieu of the 3 series diodes across the cathode meter shunt resistors. That form of protection will protect the meter movement, but will not prevent the cathode resistors from popping open. Our goal is to protect the meter and not have to repeatedly replace blown resistors with risk of eventually lifting a foil. With the 3 series diodes across the cathode resistors meter is protected and cathode resistors should never pop open and glitch resistor should help the diodes buy some time to allow slower acting primary fuse to clear the fault. It is still possible for the diodes to pop open but less likely with the glitch resistor and if they do easier to change than the cathode resistors and no damage to the final board traces and pads.

Good work Bill.

Terry K9TW

47667. Re: [TS-520_820_530_830] 6146 Arc Over Protection Mods

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-12 16:21:54 UTC
From: Jan Servaites
Topic: 47666 Message: 47667

Terry,
Well, if placed in the translucent anode wire run (past the rectifier board), if there's a problem with the glitch resistors (like one would blow), you will not sense a problem on the HV meter scale, and continue on and blow the 6146's screen? Its always something isn't it?
If you break the anode wire, and place them there, I would jacket the resistors with some teflon tubing.
Jan

wagstw46@... wrote:

>
>
> William Adams WD8OSJ has revised the connections of the type OY glitch
> resistors in his TS830 after reviewing pictures of my installation. He
> was able to pull up enough slack in the translucent (white) 900vdc
> anode supply lead to the PA cage to place the glitch resistors in
> series with this lead rather than placing the resistors in the output
> of the HV filter bank. I did not try to pull up slack and was
> satisfied that I had the resistors at the source of the greatest joule
> contribution.
>
>
> Bills change allows the resistors to limit the fault current
> contribution of the rectifier diodes as well as the filter bank.
> He has a nice picture of his installation. Just make sure you open the
> PA cage and look at the lead where it terminates on the high voltage
> terminal block near base of the small VHF plate choke to ensure not
> pulling hard on this connection. If it is being stressed strip down a
> piece of RG8X or RG58 to obtain a long length of the center conductor
> to serve as replacement HV lead to replace the factory length.
>
> Also do not be tempted to place back to back diodes across your meter
> in lieu of the 3 series diodes across the cathode meter shunt
> resistors. That form of protection will protect the meter movement,
> but will not prevent the cathode resistors from popping open. Our goal
> is to protect the meter and not have to repeatedly replace blown
> resistors with risk of eventually lifting a foil. With the 3 series
> diodes across the cathode resistors meter is protected and cathode
> resistors should never pop open and glitch resistor should help the
> diodes buy some time to allow slower acting primary fuse to clear the
> fault. It is still possible for the diodes to pop open but less likely
> with the glitch resistor and if they do easier to change than the
> cathode resistors and no damage to the final board traces and pads.
>

> Good work Bill.
>
> Terry K9TW
>

47668. RE: Questions about TS520S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-12 15:50:27 UTC
From: <jweigh@...>
Topic: 47646 Message: 47668

Mike, thanks for both the replies. I saw that in the SM but was concerned there was more to it like meter removal and so on. I didn't want to just start pulling things apart and hope I was doing it right.
I do not take your RTFM as a shot at all. rather a statement of where to start.
In the SM on page 44 it shows the voltage levels in the transmit section. Would it be reasonable to assume(I do know what that could mean) that if I took the voltage measurements at TP1 and TP2 I could use the results to narrow down the area to concentrate on? Another observation where is TP3? And to be sure I don't do it incorrectly... I have a Fluke DVOM(10M ohms) and the Fluke RF probe. I ask do you know if this meets the requirement on "input capacitance of less than 3pF"? Also what is the symbol BM at the beginning of the diagram? Sorry for so many noobie questions, I'm just trying to get as much info as I can.
Thanks again, Jerry K4gew

47669. Re: [TS-520_820_530_830] 6146 Arc Over Protection Mods

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-12 18:24:38 UTC
From: <wagstw46@...>
Topic: 47666 Message: 47669

Jan: William did not physically move them to the 800 post on the HV rect board as there is no room.

They remain on the phenolic terminal strip as noted in my original picture.

I intentionally did not place them above the HV rect board as too close a spacing, didnt want to block access to the other components, and didnt want to heat shrink or lexan tube them and didnt want them contacting the bottom cover. At 250ma only talking about approx .0.6 watts so heat shrinking should not present a dissipation problem, but locating them at and above the HV rect board is not a good choice.

William mounted his exactly as I did on terminal strip at the HV filter caps and had enough HV lead to make connections there.

If anode supply opens I doubt you would ever sense it on the HV meter in time to save the Screens from over dissipation even if you monitored HV all the time which no one would commonly do to operate one of these rigs.
I did no capacitor dump testing of these OY surge resistors. The data sheet shows testing at 100 pulses of 70 joules. If I ever lose one of the OYs then I will scrap the idea. They are rated at 80 joules.

If anyone wants to mod their rig based on repeated 6146 tube failure and blown cathode resistors, the number one part of the mod I would recommend would be the 3 series diodes across the cathode meter shunts. That alone should prevent the resistors from opening and limit the meter circuit to seeing a max of 2.1 vdc which is just slightly greater than the 1.75vdc it is designed for at 350ma indication.

I only installed the glitch resistors to try to prevent blowing the diodes and buy some time to allow the transformer primary fuse to blow.

Terry K9TW

---In TS-520_820_530_830@yahoogroups.com, <jservaites@...> wrote:

Terry,
Well, if placed in the translucent anode wire run (past the rectifier board), if there's a problem with the glitch resistors (like one would blow), you will not sense a problem on the HV meter scale, and continue on and blow the 6146's screen? Its always something isn't it?
If you break the anode wire, and place them there, I would jacket the resistors with some teflon tubing.
Jan

wagstw46@... mailto:wagstw46@... wrote: William Adams WD8OSJ has revised the connections of the type OY glitch resistors in his TS830 after reviewing pictures of my installation. He was able to pull up enough slack in the translucent (white) 900vdc anode supply lead to the PA cage to place the glitch resistors in series with this lead rather than placing the

resistors in the output of the HV filter bank. I did not try to pull up slack and was satisfied that I had the resistors at the source of the greatest joule contribution.

Bills change allows the resistors to limit the fault current contribution of the rectifier diodes as well as the filter bank.
He has a nice picture of his installation. Just make sure you open the PA cage and look at the lead where it terminates on the high voltage terminal block near base of the small VHF plate choke to ensure not pulling hard on this connection. If it is being stressed strip down a piece of RG8X or RG58 to obtain a long length of the center conductor to serve as replacement HV lead to replace the factory length.

Also do not be tempted to place back to back diodes across your meter in lieu of the 3 series diodes across the cathode meter shunt resistors. That form of protection will protect the meter movement, but will not prevent the cathode resistors from popping open. Our goal is to protect the meter and not have to repeatedly replace blown resistors with risk of eventually lifting a foil. With the 3 series diodes across the cathode resistors meter is protected and cathode resistors should never pop open and glitch resistor should help the diodes buy some time to allow slower acting primary fuse to clear the fault. It is still possible for the diodes to pop open but less likely with the glitch resistor and if they do easier to change than the cathode resistors and no damage to the final board traces and pads.

Good work Bill.

Terry K9TW

47670. Re: [TS-520_820_530_830] RE: Questions about TS520S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-12 18:44:47 UTC
From: Joseph Stiles
Topic: 47646 Message: 47670

Jerry,

Mike-w5rkl makes valid points. The final tubes(when heater on) will just sit there..with the heater
filament glowing..... the driver tube...more than likely will be hotter. Put some RF drive to a(properly) tuned up final section...and I guarantee the temps will rise!

As far as the heater switch goes...it may feel "sloppy" because one of the little fingers that holds the paddle to the switch itself is broken...common, failure of the switch itself....un-common. You can obtain replacements.

73 Joe
WB7UQU

On Wednesday, February 12, 2014 10:22 AM, "jweigh@..." <jweigh@...> wrote:

>Mike, thanks for both the replies. I saw that in the SM but was concerned there was more to it like meter removal and so on. I didn't want to just start pulling things apart and hope I was doing it right.
> I do not take your RTFM as a shot at all. rather a statement of where to start.
>In the SM on page 44 it shows the voltage levels in the transmit section. Would it be reasonable to assume(I do know what that could mean) that if I took the voltage measurements at TP1 and TP2 I could use the results to narrow down the area to concentrate on? Another observation where is TP3? And to be sure I don't do it incorrectly... I have a Fluke DVOM(10M ohms) and the Fluke RF probe. I ask do you know if this meets the requirement on "input capacitance of less than 3pF"? Also what is the symbol BM at the beginning of the diagram? Sorry for so many noobie questions, I'm just trying to get as much info as I can.
>Thanks again, Jerry K4gew
>
>
>

47671. K1EL k42 keyer on a TS-830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-12 19:37:21 UTC
From: Steven Springer
Topic: 47671 Message: 47671

Anyone try a K1EL K42 keyer on your TS-830S?? Any special way to cable it?

As per this groups rules/policies...your posts/msgs are
REQUIRED to be signed (email header does not count)with name & call(if any).
Approval of this msg/post done as a courtesy.

73 Joe WB7UQU
Group Co-owner

47672. Re: [TS-520_820_530_830] K1EL k42 keyer on a TS-830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-12 20:35:42 UTC
From: Mike W5RKL
Topic: 47671 Message: 47672

Steven,

Based on reviewing the K42 keyer schematic, which you can download free at the following link:

http://k1el.tripod.com/files/K42assy_C.pdf

the K42 keyer output keying circuit uses an AQW210EH opto switch chip for PTT control and CW keying. The AQW210EH has 2 separate outputs, pins 5 and 6 as well as pins 7 and 8. You can see these outputs by reviewing the AQW210EH chip's data sheet.

According to the AQW210EH data sheet the chip's keying voltage specification appears to be "350V" at "120ma".

You can measure the CW key's voltage by simply plugging a 1/4" mono plug into the CW socket then use a DC volt meter, RED lead connected to the TIP and the BLACK lead connected to the SLEEVE (ground), and note the DC voltage on the meter.

http://pdf1.alldatasheet.com/datasheet-pdf/view/141092/NAIS/AQW210EH.html

You can test the keyer with the KW hybrid by performing the following:

1. Set SEND switch "DOWN" so the transmitter is NOT keyed
2. Set VOX to "OFF"
3. Set Mode switch to CW

Plug the keyer's 1/4" plug into the KW hybrid's rear panel's CW key socket. If you hear a constant CW side tone then simply reverse the wiring to the 1/4" plug, i.e.,move the wire from the plug's TIP to the plug's SLEEVE and the wire from the plug's SLEEVE to plug's TIP and repeat the test.

73
Mike W5RKL

On 2/12/2014 1:37 PM, Steven Springer wrote:
> Anyone try a K1EL K42 keyer on your TS-830S??? Any special way to
> cable it?
>
> As per this groups rules/policies...your posts/msgs are
> ? REQUIRED to be signed (email header does not count)with name
> call(if any).
> Approval of this msg/post done as a courtesy.
>
> ? ? 73? Joe WB7UQU
> ? ? Group Co-owner

>

47673. Re: [TS-520_820_530_830] 6146 Arc Over Protection Mods

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-12 22:10:55 UTC
From: Mark Gilger
Topic: 47666 Message: 47673

Terry,
Is there a change required to procedure that is
posted on my site, or is it still ok? Kind of confused right now.

http://wb4hfn.com/KENWOOD/Articles/Technical_EX-004.pdf

Mark, WB0IQK

At 01:24 PM 2/12/2014, you wrote:
>
>
>Jan:
>William did not physically move them to the 800
>post on the HV rect board as there is no room.
>They remain on the phenolic terminal strip as noted in my original picture.
>I intentionally did not place them above the HV
>rect board as too close a spacing, didnt want to
>block access to the other components, and didnt
>want to heat shrink or lexan tube them and didnt
>want them contacting the bottom cover. At 250ma
>only talking about approx .0.6 watts so heat
>shrinking should not present a dissipation
>problem, but locating them at and above the HV rect board is not a good choice.
>
>William mounted his exactly as I did on terminal
>strip at the HV filter caps and had enough HV lead to make connections there.
>
>If anode supply opens I doubt you would ever
>sense it on the HV meter in time to save the
>Screens from over dissipation even if you
>monitored HV all the time which no one would
>commonly do to operate one of these rigs.
>I did no capacitor dump testing of these OY
>surge resistors. The data sheet shows testing at
>100 pulses of 70 joules. If I ever lose one of
>the OYs then I will scrap the idea. They are rated at 80 joules.
>
>If anyone wants to mod their rig based on
>repeated 6146 tube failure and blown cathode
>resistors, the number one part of the mod I
>would recommend would be the 3 series diodes
>across the cathode meter shunts. That alone
>should prevent the resistors from opening and
>limit the meter circuit to seeing a max of 2.1
>vdc which is just slightly greater than the
>1.75vdc it is designed for at 350ma indication.

>
>I only installed the glitch resistors to try to
>prevent blowing the diodes and buy some time to
>allow the transformer primary fuse to blow.
>
>Terry K9TW
>
>
>
>
>
>---In TS-520_820_530_830@yahoogroups.com, <jservaites@...> wrote:
>
>Terry,
>Well, if placed in the translucent anode wire
>run (past the rectifier board), if there's a
>problem with the glitch resistors (like one
>would blow), you will not sense a problem on the
>HV meter scale, and continue on and blow the
>6146's screen? Its always something isn't it?
>If you break the anode wire, and place them
>there, I would jacket the resistors with some teflon tubing.
>Jan
>
><mailto:wagstw46@...>wagstw46@... wrote:
>>
>>
>>William Adams WD8OSJ has revised the
>>connections of the type OY glitch resistors in
>>his TS830 after reviewing pictures of my
>>installation. He was able to pull up enough
>>slack in the translucent (white) 900vdc anode
>>supply lead to the PA cage to place the glitch
>>resistors in series with this lead rather than
>>placing the resistors in the output of the HV
>>filter bank. I did not try to pull up slack and
>>was satisfied that I had the resistors at the
>>source of the greatest joule contribution.
>>
>>Bills change allows the resistors to limit the
>>fault current contribution of the rectifier diodes as well as the filter bank.
>>He has a nice picture of his installation. Just
>>make sure you open the PA cage and look at the
>>lead where it terminates on the high voltage
>>terminal block near base of the small VHF plate
>>choke to ensure not pulling hard on this
>>connection. If it is being stressed strip down
>>a piece of RG8X or RG58 to obtain a long length
>>of the center conductor to serve as replacement
>>HV lead to replace the factory length.

>>
>>Also do not be tempted to place back to back
>>diodes across your meter in lieu of the 3
>>series diodes across the cathode meter shunt
>>resistors. That form of protection will protect
>>the meter movement, but will not prevent the
>>cathode resistors from popping open. Our goal
>>is to protect the meter and not have to
>>repeatedly replace blown resistors with risk of
>>eventually lifting a foil. With the 3 series
>>diodes across the cathode resistors meter is
>>protected and cathode resistors should never
>>pop open and glitch resistor should help the
>>diodes buy some time to allow slower acting
>>primary fuse to clear the fault. It is still
>>possible for the diodes to pop open but less
>>likely with the glitch resistor and if they do
>>easier to change than the cathode resistors and
>>no damage to the final board traces and pads.
>>
>>Good work Bill.
>>
>>Terry K9TW
>
>

47674. Re: [TS-520_820_530_830] RE: Questions about TS520S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-12 22:16:38 UTC
From: Mark Gilger
Topic: 47646 Message: 47674

Mike,
It's always good procedure to keep both of those
switch in the ON position 100% of the time. The
older the radio gets, the more chance there is
for a failure. Plug the radio into a remote power
strip and turn it on/off via that switch. Easier
to replace the power strip than the switches inside of the radio.

Mark, WB0IQK

At 01:44 PM 2/12/2014, Joseph Stiles wrote:
>
>
>Jerry,
>
> Mike-w5rkl makes valid points. The final
> tubes(when heater on) will just sit there..with the heater
>filament glowing..... the driver tube...more
>than likely will be hotter. Put some RF drive to
>a(properly) tuned up final section...and I guarantee the temps will rise!
>
> As far as the heater switch goes...it may
> feel "sloppy" because one of the little fingers
> that holds the paddle to the switch itself is
> broken...common, failure of the switch
> itself....un-common. You can obtain replacements.
>
>
>73 Joe
>WB7UQU
>
>
>On Wednesday, February 12, 2014 10:22 AM,
>"jweigh@..." <jweigh@...> wrote:
>
>Mike, thanks for both the replies. I saw that in
>the SM but was concerned there was more to it
>like meter removal and so on. I didn't want to
>just start pulling things apart and hope I was doing it right.
> I do not take your RTFM as a shot at all.
> rather a statement of where to start.
>In the SM on page 44 it shows the voltage levels
>in the transmit section. Would it be reasonable
>to assume(I do know what that could mean) that
>if I took the voltage measurements at TP1 and

>TP2 I could use the results to narrow down the
>area to concentrate on? Another observation
>where is TP3? And to be sure I don't do it
>incorrectly... I have a Fluke DVOM(10M ohms) and
>the Fluke RF probe. I ask do you know if this
>meets the requirement on "input capacitance of
>less than 3pF"? Also what is the symbol BM at
>the beginning of the diagram? Sorry for so many
>noobie questions, I'm just trying to get as much info as I can.
>Thanks again, Jerry K4gew
>
>
>

47675. Re: [TS-520_820_530_830] RE: Questions about TS520S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-12 22:32:14 UTC
From: W5RKL
Topic: 47646 Message: 47675

Mark,

I'm not the one asking about the heater switch Jerry, K4GEW, is. I think
you may have thought Mark but typed Mike. No problem though.

73
Mike W5RKL

On 2/12/2014 4:16 PM, Mark Gilger wrote:
>
> Mike,
> It's always good procedure to keep both of those switch in the ON
> position 100% of the time. The older the radio gets, the more chance
> there is for a failure. Plug the radio into a remote power strip and
> turn it on/off via that switch. Easier to replace the power strip than
> the switches inside of the radio.
>
> Mark, WB0IQK
>
> At 01:44 PM 2/12/2014, Joseph Stiles wrote:
>
>>
>>
>> Jerry,
>>
>> Mike-w5rkl makes valid points. The final tubes(when heater on) will
>> just sit there..with the heater
>> filament glowing..... the driver tube...more than likely will be
>> hotter. Put some RF drive to a(properly) tuned up final section...and
>> I guarantee the temps will rise!
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>> As far as the heater switch goes...it may feel "sloppy" because
>> one of the little fingers that holds the paddle to the switch itself
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>> On Wednesday, February 12, 2014 10:22 AM, "jweigh@..."
>> <jweigh@...> wrote:
>>
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>> Mike, thanks for both the replies. I saw that in the SM but was

>> concerned there was more to it like meter removal and so on. I
>> didn't want to just start pulling things apart and hope I was
>> doing it right.
>> I do not take your RTFM as a shot at all. rather a statement of
>> where to start.
>> In the SM on page 44 it shows the voltage levels in the transmit
>> section. Would it be reasonable to assume(I do know what that
>> could mean) that if I took the voltage measurements at TP1 and
>> TP2 I could use the results to narrow down the area to
>> concentrate on? Another observation where is TP3? And to be sure
>> I don't do it incorrectly... I have a Fluke DVOM(10M ohms) and
>> the Fluke RF probe. I ask do you know if this meets the
>> requirement on "input capacitance of less than 3pF"? Also what is
>> the symbol BM at the beginning of the diagram? Sorry for so many
>> noobie questions, I'm just trying to get as much info as I can.
>> Thanks again, Jerry K4gew
>>
>>
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

47676. Re: [TS-520_820_530_830] RE: Questions about TS520S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-12 22:38:24 UTC
From: Mark Gilger
Topic: 47646 Message: 47676

What can I say. Age has taken it's toll on my
extra brain cells. Hum, Did I say Extra?
Mark, WB0IQK

At 05:32 PM 2/12/2014, W5RKL wrote:
>
>
>Mark,
>
>I'm not the one asking about the heater switch
>Jerry, K4GEW, is. I think you may have thought
>Mark but typed Mike. No problem though.
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>73
>Mike W5RKL
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>
>
>On 2/12/2014 4:16 PM, Mark Gilger wrote:
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>>Mike,
>>It's always good procedure to keep both of
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>>time. The older the radio gets, the more chance
>>there is for a failure. Plug the radio into a
>>remote power strip and turn it on/off via that
>>switch. Easier to replace the power strip than
>>the switches inside of the radio.
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>>Mark, WB0IQK
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>>At 01:44 PM 2/12/2014, Joseph Stiles wrote:
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>>> feel "sloppy" because one of the little

>>> fingers that holds the paddle to the switch
>>> itself is broken...common, failure of the
>>> switch itself....un-common. You can obtain replacements.
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>>>
>>>73 Joe
>>>WB7UQU
>>>
>>>
>>>On Wednesday, February 12, 2014 10:22 AM,
>>><mailto:jweigh@...>"jweigh@..."
>>><mailto:jweigh@...><jweigh@aol.com> wrote:
>>>
>>>Mike, thanks for both the replies. I saw that
>>>in the SM but was concerned there was more to
>>>it like meter removal and so on. I didn't want
>>>to just start pulling things apart and hope I was doing it right.
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>>> rather a statement of where to start.
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>>>levels in the transmit section. Would it be
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>>>Another observation where is TP3? And to be
>>>sure I don't do it incorrectly... I have a
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>>>what is the symbol BM at the beginning of the
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>>>I'm just trying to get as much info as I can.
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>
>
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>
>----------
><http://www.avast.com/>
>[]
><http://www.avast.com/>
>
>This email is free from viruses and malware
>because <http://www.avast.com/>avast! Antivirus protection is active.
>
>

47677. Re: [TS-520_820_530_830] RE: Questions about TS520S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-13 00:17:48 UTC
From: Mike W5RKL
Topic: 47646 Message: 47677

I do that myself some times so no big deal.

73
Mike W5RKL

On 2/12/2014 4:38 PM, Mark Gilger wrote:
>
> What can I say. Age has taken it's toll on my extra brain cells. Hum,
> Did I say Extra?
> Mark, WB0IQK
>
> At 05:32 PM 2/12/2014, W5RKL wrote:
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>>> Mark, WB0IQK
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>>> At 01:44 PM 2/12/2014, Joseph Stiles wrote:
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>>>> Jerry,
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>>>> On Wednesday, February 12, 2014 10:22 AM, "jweigh@..."
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>>>> wrote:
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>>>> many noobie questions, I'm just trying to get as much info as I
>>>> can.
>>>> Thanks again, Jerry K4gew
>>>>
>>
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>>
>> ---
>> [] <http://www.avast.com/><http://www.avast.com/>
>>
>> This email is free from viruses and malware because avast! Antivirus
>> <http://www.avast.com/> protection is active.
>>
>
>

47678. Re: [TS-520_820_530_830] 6146 Arc Over Protection Mods

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-13 00:26:05 UTC
From: <wagstw46@...>
Topic: 47666 Message: 47678

Mark:

I will ask Bill to send you a new picture of the glitch resistor installation. The diode string and MOVs pictures are OK. Anyone who installed the glitch resistors at the output of the filter bank are OK and no need for concern. After they see what Bill did they can decide if they want to make the change. No jeopardy or sense of urgency to do anything at all.

I am working on tweaking the Low RF Drive Troubleshooting and how to perform the RX Level Diagrams white papers. Joe pulled them down for me today and I will send back to him and you. Should have them done by this week end.

Terry K9TW

---In TS-520_820_530_830@yahoogroups.com, <mgilger@...> wrote:

Terry,
Is there a change required to procedure that is posted on my site, or is it still ok? Kind of confused right now.

http://wb4hfn.com/KENWOOD/Articles/Technical_EX-004.pdf

Mark, WB0IQK

At 01:24 PM 2/12/2014, you wrote:

Jan:
William did not physically move them to the 800 post on the HV rect board as there is no room.
They remain on the phenolic terminal strip as noted in my original picture.
I intentionally did not place them above the HV rect board as too close a spacing, didnt want to block access to the other components, and didnt want to heat shrink or lexan tube them and didnt want them contacting the bottom cover. At 250ma only talking about approx .0.6 watts so heat shrinking should not present a dissipation problem, but locating them at and above the HV rect board is not a good choice.

William mounted his exactly as I did on terminal strip at the HV filter caps and had enough HV lead to make connections there.

If anode supply opens I doubt you would ever sense it on the HV meter in time to save the Screens from over dissipation even if you monitored HV all the time which no one would commonly do to operate one of these rigs.
I did no capacitor dump testing of these OY surge resistors. The data sheet shows testing at 100 pulses of 70 joules. If I ever lose one of the OYs then I will scrap the idea. They are rated at 80 joules.

If anyone wants to mod their rig based on repeated 6146 tube failure and blown cathode resistors, the number one part of the mod I would recommend would be the 3 series diodes

across the cathode meter shunts. That alone should prevent the resistors from opening and limit the meter circuit to seeing a max of 2.1 vdc which is just slightly greater than the 1.75vdc it is designed for at 350ma indication.

I only installed the glitch resistors to try to prevent blowing the diodes and buy some time to allow the transformer primary fuse to blow.

Terry K9TW

---In TS-520_820_530_830@yahoogroups.com, <jservaites@...> wrote:

Terry,
Well, if placed in the translucent anode wire run (past the rectifier board), if there's a problem with the glitch resistors (like one would blow), you will not sense a problem on the HV meter scale, and continue on and blow the 6146's screen? Its always something isn't it?
If you break the anode wire, and place them there, I would jacket the resistors with some teflon tubing.
Jan

wagstw46@... mailto:wagstw46@... wrote:

William Adams WD8OSJ has revised the connections of the type OY glitch resistors in his TS830 after reviewing pictures of my installation. He was able to pull up enough slack in the translucent (white) 900vdc anode supply lead to the PA cage to place the glitch resistors in series with this lead rather than placing the resistors in the output of the HV filter bank. I did not try to pull up slack and was satisfied that I had the resistors at the source of the greatest joule contribution.

Bills change allows the resistors to limit the fault current contribution of the rectifier diodes as well as the filter bank.
He has a nice picture of his installation. Just make sure you open the PA cage and look at the lead where it terminates on the high voltage terminal block near base of the small VHF plate choke to ensure not pulling hard on this connection. If it is being stressed strip down a piece of RG8X or RG58 to obtain a long length of the center conductor to serve as replacement HV lead to replace the factory length.

Also do not be tempted to place back to back diodes across your meter in lieu of the 3 series diodes across the cathode meter shunt resistors. That form of protection will protect the meter movement, but will not prevent the cathode resistors from popping open. Our goal is to protect the meter and not have to repeatedly replace blown resistors with risk of eventually lifting a foil. With the 3 series diodes across the cathode resistors meter is protected and cathode resistors should never pop open and glitch resistor should help the diodes buy some time to allow slower acting primary fuse to clear the fault. It is still possible for the diodes to pop open but less likely with the glitch resistor and if they do easier to change than the cathode resistors and no damage to the final board traces and pads.

Good work Bill.

Terry K9TW

47679. Re: [TS-520_820_530_830] 6146 Arc Over Protection Mods

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-13 00:57:05 UTC
From: <paw_paw44036@...>
Topic: 47666 Message: 47679

I posted a picture for all to see and evaluate. It is your choice to do either.
Bill WD8OSJ

47680. TS520S Loss of Rx

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-13 04:14:44 UTC
From: <pyrrus2003@...>
Topic: 47680 Message: 47680

This evening, I think I blew something in the Rx stage of my TS-520S. Tx power is fine, approximately 100 watts output. I had the radio on, but receiver turned all the way down, and I forgot it was on. I tuned up my HT-32 into the dummy load, and suddenly realized the TS-520S was on. Both radios share a selector switch into the antenna tuner, antenna and dummy load. I suspect that there is enough cross-position leakage to overload the receiver, and something blew. I have Rx, but it is down approximately 1% of what it should be-(e.g. 500 microvolts gives an S9 response where a 50 microvolt signal should respond at S9).

I will run the block diagram tomorrow evening, but any suggestions as to what to check would be welcome. I have a calibrated signal generator, a Simpson 260 multimeter, a HeathKit VTVM (unfortunately no RF probe, but I can build one) and a 100 mHz o'scope that unfortunately I don't know how to fully utilize.

John Boardman
KD5ZGX

47681. RE: TS830S Unstable on 10M - no output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-13 00:15:22 UTC
From: <dlacroix@...>
Topic: 46900 Message: 47681

Good news! I pulled the switch back out and bought some hook leads for the DMM and found one open contact on wafer 4. Redid that one and put it back together. Now I have plenty of ALC on every band, and I get > 100 W out on all bands too. Now I can polish it up and put it on the market. Thanks for all the help!

Dave WB0SD

47682. Re: [TS-520_820_530_830] RE: TS830S Unstable on 10M - no output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-13 04:35:02 UTC
From: Joseph Stiles
Topic: 46900 Message: 47682

Dave,

nice work...kinda of gives ya that nice warm glowing tube feeling

73 Joe
WB7UQU

On Wednesday, February 12, 2014 8:32 PM, "dlacroix@..." <dlacroix@...> wrote:

>Good news! I pulled the switch back out and bought some hook leads for the DMM and found one open contact on wafer 4. Redid that one and put it back together. Now I have plenty of ALC on every band, and I get > 100 W out on all bands too. Now I can polish it up and put it on the market. Thanks for all the help!
>
>
>Dave WB0SD
>
>
>

47683. Re: [TS-520_820_530_830] K1EL k42 keyer on a TS-830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-13 03:22:38 UTC
From: <k0sjs@...>
Topic: 47671 Message: 47683

OK - let me give it a try - thank you !

Steven Springer
K0SJS

47684. Sick TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-13 05:06:01 UTC
From: <james9194@...>
Topic: 47684 Message: 47684

Hello all.
My Kenwood TS-830 decided to die about 3 months ago and I have been to busy to concentrate on it or troubleshoot the problem. The problem is this and I would really like to know if anyone has seen this problem.
When I turn the radio on the LED numbers come on and then go dim very slowly. Then there is no receive or
transmit. If someone has seen this I could save some time by starting in the right place; power supply I'm pretty sure. Help would be greatly appreciated or I'll just have to wait until I get a round tu it.
73 Jim
WU7G

47685. RE: Sick TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-13 11:39:45 UTC
From: <wagstw46@...>
Topic: 47684 Message: 47685

First try exercising the FIX switch a few times.

Terry K9TW

47686. RE: TS520S Loss of Rx

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-13 11:49:38 UTC
From: <wagstw46@...>
Topic: 47680 Message: 47686

John

You may have lost your L1 Ant Step Up transformer. Do you have WWV?

Try injecting at RFG terminal instead of ANT terminal. If good at RFG then most likely have lost L1. If still low then may have lost Q3 RF amp dual gate mosfet.

Can post on here and ask if anyone has a parts board to harvest a good L1 and if not then will have to rewind it or buy a board from Bob Mansker. .

Terry K9TW

47687. RE: Sick TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-13 12:31:32 UTC
From: <alan_wolf69@...>
Topic: 47684 Message: 47687

I had a similar problem - and Terry is right on the money - a Fix switch problem.

47688. Re: [TS-520_820_530_830] 6146 Arc Over Protection Mods

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-13 13:03:45 UTC
From: Mark Gilger
Topic: 47666 Message: 47688

I sent both you and Terry a message to your emails.
Thanks,
Mark, WB0IQK

At 07:57 PM 2/12/2014, paw_paw44036@... wrote:
>
>
>I posted a picture for all to see and evaluate.
>It is your choice to do either.
>
>Bill WD8OSJ
>

47689. Passing of George Du Mond, K0GWD

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-13 13:27:06 UTC
From: Mike W5RKL
Topic: 47689 Message: 47689

Some of you may not know George Du Mond, K0GWD, but George was a KW hybrid group member for many years and owner of a KW TS-530 and TS-830. George passed away on February 9th, 2014 at his home with his family by his side.

I knew and was friends with George for years, helping him fix his TS-830 and his Swan 250 six meter transceiver. He wasn't a very active group member but he did read all the messages almost daily until his health kept him from those things. I will miss him but I know that he is in God's kingdom now.

Mike W5RKL

47690. RE: Sick TS-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-13 14:53:35 UTC
From: <wagstw46@...>
Topic: 47684 Message: 47690

Alan: Appreciate the vote of confidence but lets not celebrate yet. Could also be high resistance contact in the mini-din switch in the remote VFO jack on rear panel and in rare cases maybe bad transformer in the DC to DC converter on the counter display board or.....?????

It sounds like slow loss of VFO input to the PLL board so exercising the FIX is an easy first place to check. Of course getting any appreciable amount of deoxit to it is not an easy feat.

Terry K9TW

47691. 6146 Tube Arc Over Protection

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-13 17:36:59 UTC
From: <wagstw46@...>
Topic: 47691 Message: 47691

Well seems much confusion about the protection mod that Mark has posted on Ron WB4HFN site. Here is my original basis.

1. Prevent cathode resistors from popping open when 6146 arcs over from anode to beam plates (cathode) by shunting them with 3 series connected silicon diodes.
2. Protect the panel meter during arc over event by limiting maximum voltage across the meter and its series multiplier to approx 2vdc.
3. Protect the panel meter after the arc over event due to tube open cathode potential rise.

I had NO thought to limiting damage to the tubes or the power supply components as I had not witnessed any. Only problem I have seen with the tubes is that they may not hold off high enough anode to cathode voltage during a Hi pot test performed after an arc over event. Never seen any internal element damage. Only time I have seen element damage was during thermal runaway due to loss of operating bias. This is a very different type of event than tube arc over and usually results in the finals being destroyed as elements sag and short or melt holes in the plates or even suck in the glass envelope.

My goal was NOT to protect the tubes, the HV filter bank, the voltage doubler rectifiers, or the power transformer. None of these components in my experience are typically damaged during an arc over event. In fact, many owners replace the blown cathode resistors and re-power using the same 6146 tubes with no repeat events. While others almost immediately incur a repeat event (more my experience). There is no doubt that the event is stressful on the power supply components, but it is a very rapid event as evidenced by the violent nature the cathode resistors fail.

I installed the glitch resistor to limit the current that the 3 series diodes would have to handle. I did not want them to pop open. In doing so I may have slowed down the event and it is possible that the power supply components may now incur damage in the time it takes for the slower acting fuse to blow and clear the fault.

I have no evidence to support this concern. Just wanted anyone who is contemplating this mod to be aware that the fix may result in transferring the weak link elsewhere in the scheme.

I kind of wish now that I had not suggested or allowed Mark to publish. None of this is original design. I have previously mentioned that Tom W8JI helped me with the diode clamp and glitch resistor and I borrowed from the work of Ian White for the screen grid MOVs. Not much original work in linear amp design and protection schemes. Just the application of it.

So this post is to make sure that anyone contemplating this mod understands that I cannot guarantee that the "fix" will not introduce jeopardy elsewhere in the scheme. All I can tell you is that I have the mod as shown in Marks Technical Bulletin installed in my personal TS520, TS820 and two TS830S. I have also installed in probably more than 20 customer rigs and to date no blown cathode resistors or ill effects in my personal rigs and no reports of power supply damage from my customers.

I have nothing more to add on this topic on the forum. Suggest we take it off the forum.

Terry
K9TW.

47692. Re: [TS-520_820_530_830] RE: TS520S Loss of Rx

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-13 18:45:04 UTC
From: John Boardman
Topic: 47680 Message: 47692

Thanks for your response Terry.

Yes, I do have WWV, and a good strong signal it is. I haven't had an opportunity to try injecting a signal at the RFG terminal; I assume it is the one on the RF Board near the middle air variable capacitor. If I also assume the L1 you reference is also on the RF Board, the parts list shows it as a 470 microHenry ferri-inductor. My Mouser catalog shows a 470 microHenry inductor as looking like a pancake wound coil over a small ferrite rod - is this what L1 looks like, or is it located somewhere other than on the RF Board?

I guess my mistake qualifies as the dumba** screwup of the week.

John
KD5ZGX

On Thursday, February 13, 2014 5:49 AM, "wagstw46@..." <wagstw46@...> wrote:

John

You may have lost your L1 Ant Step Up transformer. Do you have WWV?

Try injecting at RFG terminal instead of ANT terminal. If good at RFG then most likely have lost L1. If still low then may have lost Q3 RF amp dual gate mosfet.

Can post on here and ask if anyone has a parts board to harvest a good L1 and if not then will have to rewind it or buy a board from Bob Mansker. .

Terry K9TW

47693. Re: [TS-520_820_530_830] RE: Serial number and purchase date in the Group Database

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-13 18:34:35 UTC
From: Tim Mcmillin
Topic: 47644 Message: 47693

Mark,
For your list:
I am the original owner of two transceivers,
A TS830S , serial # 3010827 purchased 9/4/82 (however, it emerged from the original box only 4 weeks ago)
from the Amateur Radio Center, Baltimore, MD via Henry radio.
A TS520S, serial # 730328. Not sure of the purchase date and vendor.
I also have brand new, never installed filters: YK-88C and YG-455C
73,
Tim, WA3GPU

Sent from my iPhone

On Feb 12, 2014, at 12:35 AM, Mark Gilger <mgilger@...> wrote:

> Thanks Bill, I'll add this to the list that I'm developing.
>
> Mark, WB0IQK
>
> At 12:20 AM 2/12/2014, you wrote:
>>
>>
>> If it helps- my TS830S Gold is serial 50800xx and purchased on 23rd March 1985.
>> No additional filters fitted.
>> 73 William ZL2BGX
>
>

47694. Re: [TS-520_820_530_830] RE: Serial number and purchase date in the Group Database

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-13 19:09:35 UTC
From: Gordon JC Pearce
Topic: 47644 Message: 47694

My TS-520 has the serial number 130095 - I didn't buy it new. I've no idea how old it is, but perhaps someone else can estimate from the number. I'm guessing it's damn near as old as I am.

--
Gordonjcp MM0YEQ

47695. Re: [TS-520_820_530_830] RE: Serial number and purchase date in the Group Database

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-13 19:57:01 UTC
From: Mark Gilger
Topic: 47644 Message: 47695

Your TS-520s was probably produced early part of
1989. I have one in the data base right now that
has a serial number pretty close to yours and it was bought in June of 1978.

Mark

At 01:34 PM 2/13/2014, Tim Mcmillin wrote:
>
>
>Mark,
>For your list:
>I am the original owner of two transceivers,
>A TS830S , serial # 3010827 purchased 9/4/82
>(however, it emerged from the original box only 4 weeks ago)
>from the Amateur Radio Center, Baltimore, MD via Henry radio.
>A TS520S, serial # 730328. Not sure of the purchase date and vendor.
>I also have brand new, never installed filters: YK-88C and YG-455C
>73,
>Tim, WA3GPU
>
>Sent from my iPhone
>
>On Feb 12, 2014, at 12:35 AM, Mark Gilger
><<mailto:mgilger@...>mgilger@...t> wrote:
>
>>
>>
>>Thanks Bill, I'll add this to the list that I'm developing.
>>
>>Mark, WB0IQK
>>
>>At 12:20 AM 2/12/2014, you wrote:
>>>
>>>
>>>If it helps- my TS830S Gold is serial 50800xx
>>>and purchased on 23rd March 1985.
>>>No additional filters fitted.
>>>73 William ZL2BGX
>

47696. Re: [TS-520_820_530_830] RE: Serial number and purchase date in the Group Database

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-13 19:59:53 UTC
From: Mark Gilger
Topic: 47644 Message: 47696

Guys,
I'm only interested in serial numbers if we know
the date it was bought. Sometimes the original
owner wrote his serial number and date on the
front or back cover of his operating manual. I
have one like that. Or you might have been the
original purchaser. So for now, that's what I'm
looking for. Eventually when we get enough
numbers, a person can look and pretty well
determine what year his radio was made, at least
that's my hope if we get enough data points.

Thanks,
Mark, WB0IQK

At 02:09 PM 2/13/2014, Gordon JC Pearce wrote:
>
>
>My TS-520 has the serial number 130095 - I
>didn't buy it new. I've no idea how old it is,
>but perhaps someone else can estimate from the
>number. I'm guessing it's damn near as old as I am.
>
>--
>Gordonjcp MM0YEQ
>
>

47697. Re: [TS-520_820_530_830] RE: TS520S Loss of Rx

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-13 20:01:08 UTC
From: <wagstw46@...>
Topic: 47680 Message: 47697

No L1 is not a choke. The L1 I am talking about can be seen on the schematic if you look at the ANT terminal. You will see couple of 8.830 wave traps and then L1 step up transformer. It is on the Ant Coil Unit board below the RF board and is labeled as 1.9 mhz. Q3 RF amp is on the RF board.

The fact that you do receive WWV means that the switching diode and Q5 rf amp were not hurt by accidental transmit RF. Still could have lost L1 and/or Q3. You can also jumper center conductor from coax feed line from antenna to RFG terminal or to the solder lug of VC-2 air variable capacitor is easy to access.

You are not the first person to ever inject Transmit RF into front end of a rig. Easy to do. Some people use patch panels with BNC and SO-239 connectors on opposite ends and color coded tape on the patch cable ends etc to prevent this kind of event. Most antenna switches should have enough isolation at 100 watt power levels to prevent this from happening. Can be measured but wont go in to that here.

Terry K9TW

47698. Re: [TS-520_820_530_830] RE: TS520S Loss of Rx

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-13 21:42:07 UTC
From: <wagstw46@...>
Topic: 47680 Message: 47698

I meant a PL-259 on end of the patch cord opposite the BNC end and not a SO-239. Dont see patch panels much anymore. Just something to think about as it is darned near fool proof unless you put adapters on each end and defeat the different connectors.

Look at all the pictures here from beginning to end. Kind of fun.

http://www.ar15.com/archive/topic.html?b=10&f=22&t=653913
http://www.ar15.com/archive/topic.html?b=10&f=22&t=653913

Terry K9TW

47699. Re: [TS-520_820_530_830] RE: TS520S Loss of Rx

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-13 22:40:07 UTC
From: John Boardman
Topic: 47680 Message: 47699

Terry:

I do have WWV, and it is a strong signal.

I haven't had a chance ti inject a signal at RFG; I will do that this evening after work; I presume this is the test point/terminal on the RF board near the center air variable. Looking at the parts list in the Service Manual, L1 on the RF board is listed as a 470 microHenry ferri-inductor. My Mouser catalog lists a similar part - a 470 microHenry inductor that looks like a pancake wound coil on a small ferrite rod. Is this the thing you are talking about, or is it something more like an IF transformer can?

John Boardman
KD5ZGX

On Thursday, February 13, 2014 5:49 AM, "wagstw46@..." <wagstw46@...> wrote:

John

You may have lost your L1 Ant Step Up transformer. Do you have WWV?

Try injecting at RFG terminal instead of ANT terminal. If good at RFG then most likely have lost L1. If still low then may have lost Q3 RF amp dual gate mosfet.

Can post on here and ask if anyone has a parts board to harvest a good L1 and if not then will have to rewind it or buy a board from Bob Mansker. .

Terry K9TW

47700. RE: TS-830s relay

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-14 02:38:23 UTC
From: <davidcuttler@...>
Topic: 47419 Message: 47700

All the rectifier board relays are sold, except for one which I am keeping for myself. The last two went out today to Denmark. I have now opened up a little space in one of my parts bins. Thanks to all who bought them.
David

47701. Re: [TS-520_820_530_830] RE: TS-830s - Rectifier Board Diodes D1 - D4

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-13 23:24:07 UTC
From: Robert Allen
Topic: 47660 Message: 47701

Good Evening Terry & Mike:
Thank you for your fast reply. Just wanted to check with the TS-830 EXPERTS before I proceeded installing the diodes.
Thank you for your time
73
Bob
W1ZX

This msg/post edited as it contained already posted material - WB7UQU

47702. R4A power transformer

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-14 03:42:17 UTC
From: W5RKL
Topic: 47702 Message: 47702

I know this is not Kenwood but I thought I would try.

I'm looking for a good power transformer for a Drake R4A receiver. I have already asked on the Yahoo Drake group, so if you have one that's collecting dust and you are willing to sell, let me know off group. If I can't find one then I'll have to get the bad one (shorted in the HV windings) rewound. My email address is good on this group.

73
Mike W5RKL

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

47703. Kenwood DG-1.....so close!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-14 04:57:50 UTC
From: Bill & Becky
Topic: 47703 Message: 47703

Hi Group I've been working on my TS820S mainly the DG-1 (2) boards. I've resoldered the feedthrough's, IC's and pads as needed. I visually inspected all soldering. My problem is this. Display now works except for the 15 Mtr display.....reads 9.000 All other bands are correct and stable. Just the display on 15 Mtrs.....the receiver tunes using the analog dial but the display is fixed @9.000.

Any one care to venture this DG-1 error??

Best DX

Bill KB9IV

47704. DG5 display problems

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-14 06:28:11 UTC
From: Greg Lamey
Topic: 47704 Message: 47704

I have a DG5 that is driving me round the twist, and I suspect I am no orphan. One of the remedies I have read about is placing conductors through the through holes which are unreliable. Some of the DG5 through holes are under various ICs. Is it necessary then to unsolder each IC hiding a through hole to gain access to both sides of the hole?

I can not believe the DG5 is from the same manufacturer as the 520. One goes forever and the other is beset with intermittent faults.

I have got this display to read correctly on the 3.5meg band, but silly numbers on other bands.
all advice appreciated.

kind regards Greg

VK5LG

47705. RE: DG5 display problems

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-14 12:44:58 UTC
From: <tjb813@...>
Topic: 47704 Message: 47705

Before you go the long route of fixing every plated through hole, I suggest you re-solder the components around the HET input circuits. This has proven to be most troublesom on the DG-5's I repair. No guarentee this will fix it, but its where I usually start when I see those symptoms. Another thought, use short jumper cables and a good quality one for the HET input. This is a very low level signal and is easily attenuated.

Good Luck
Tim
KD8CN

47706. RE: Kenwood DG-1.....so close!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-14 12:50:51 UTC
From: <tjb813@...>
Topic: 47703 Message: 47706

Check the input levels to the DG-1. I'll bet they are low.

47707. Re: [TS-520_820_530_830] RE: Kenwood DG-1.....so close!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-14 13:07:12 UTC
From: Mike W5RKL
Topic: 47703 Message: 47707

tjb813, as a member of this group and posting messages on this group you must add a signature at the end of your messages. An acceptable signature is

1. For licensed hams, first name and call sign
2. For non-licensed hams, first name only

Screen names are not acceptable as a message signature. Screen names are acceptable only as being part of an email address.

Please ensure any/all future messages you post on this group contain a valid signature at the end of your messages.

Thank you and 73
Mike W5RKL
TS_520_820_530_830 Moderator

On 2/14/2014 6:50 AM, tjb813@... wrote:
>
> Check the input levels to the DG-1. I'll bet they are low.
>
>

47708. RE: Kenwood DG-1.....so close!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-14 16:19:54 UTC
From: <wagstw46@...>
Topic: 47703 Message: 47708

Bill: Unfortunately as you know not easy to access the test points on the Counter Mixer board.

One thing you can check with unit in place is to make sure that the 21mhz low pass filter is getting its diode switching voltage. The bandswitch supplies 9vdc to turn on the filter switching diodes D5/D6 via B3. You can read B3 (pin 10 green wire) from bottom side at the 17 pin molex connector. Voltage will be less than 9.0vdc by approx 0.6vdc due to diode D19 on the PD board. Connect DMM to B3 pin and flip bandswitch on and off of 21 mhz position and you should see approx 8.4vdc come and go. This doesnt mean that the low pass filter switching diodes are really seeing it, but it tells you it is available at the molex connector and most likely the filter is being turned on to allow output. Not often that any of the Low Pass filter switching diodes fail.

Unfortunately not easy to access TP-5 or CIN on the Counter Mix board. At TP-5 you should see approx 200mv signal level.

Terry K9TW

47709. RE: Kenwood DG-1.....so close!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-14 16:28:26 UTC
From: <wagstw46@...>
Topic: 47703 Message: 47709

Bill I forgot to mention that CIN will be approx 1.0v.

Terry K9TW

47710. RE: Kenwood DG-1.....so close!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-14 15:44:34 UTC
From: <wmarvin2@...>
Topic: 47703 Message: 47710

Hi Will adjusting the counter mixer board increase the counter brd Het inputs?

Best Dx

Bill KB9IV

47711. RE: Kenwood DG-1.....so close!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-14 20:35:43 UTC
From: <wagstw46@...>
Topic: 47703 Message: 47711

There is no Het osc input to the Counter Mixer board on a TS-820S? I thought this was the rig in question? There is Carrier (CCR) from the IF board and VCO (CVC) from the PLL board. If you have set the Carrier Osc output level according to the Service manual you should be having other problems. The Carrier Osc level should be set to 300mv and not 50mv as directed. After Carrier Osc is set to 300mv then you can adjust the CCR level from the IF board by adjusting trimmer cap TC-1 (you can see it near Q17 on the schematic). Can measure the levels at CA2 and CCR on the IF Board at Molex Conn IF-5, but I like to measure it at the Counter Mixer Board.

CCR at Pin 7 should be approx 100mv to 150mv

CVC at Pin 1 should be approx 900mv

Unless you have adjusted the Carrier Osclillator levels to 50mv I doubt that CCR or CVC levels are a problem just effecting 21 mhz display.
Terry K9TW.

47712. RE: Kenwood DG-1.....so close!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-15 14:16:01 UTC
From: <wmarvin2@...>
Topic: 47703 Message: 47712

Hi Group. The 21 Mhz display issue for my 820S is solved thanks to Terry's great suggestion(s) and pointers!
I did a resistance check at the Counter Mixer pin 10 (B3) to D6, D5 on the 21 Mhz LPF.....open. L14 was open!! Solved!!
Thanks Terry.....your a champ!!

Best Dx

Bill KB9IV

47713. Re: Serial number and purchase date in the Group Database

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-15 15:25:33 UTC
From: Doug Wiles
Topic: 47644 Message: 47713

I'm the very proud, original owner of a TS-820, serial #641383, that I purchased in the Spring of 1978 from the Air Force Post Exchange in Weisbaden, while stationed in West Germany with the Army. I added the digital display and the optional CW filter a few months later. The following year I bought the VFO-820 (#640497) and the SP-820 (#661413). The AT-230 (#3010185) came next in 1980. The rig was so hot at the time that I thought this was the last rig I'd own. After some cap replacements and other service work along the way, the rig works as good as the day I excitedly brought it home.

Doug, WF4B

47714. RE: Kenwood DG-1.....so close!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-15 18:33:13 UTC
From: <wagstw46@...>
Topic: 47703 Message: 47714

Bill: That is a real unusual failure as the diode current is only approx 3ma?

If you had the board out might be interesting to measure DC voltage drop from TP-4 and TP-5 to chassis ground. This would be IR drop across current limiting resistors R20 and R26 3.3k ohm. My guess is would be something on the order of approx 7.5vdc if all is well.

Anyway good find.

Terry K9TW

47715. Re: [TS-520_820_530_830] Re: Serial number and purchase date in the Group Database

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-15 21:43:54 UTC
From: Mark Gilger
Topic: 47644 Message: 47715

Thanks Doug. Got it all logged.

Mark

At 10:25 AM 2/15/2014, Doug Wiles wrote:
>
>
>I'm the very proud, original owner of a TS-820,
>serial #641383, that I purchased in the Spring
>of 1978 from the Air Force Post Exchange in
>Weisbaden, while stationed in West Germany with
>the Army. I added the digital display and the
>optional CW filter a few months later. The
>following year I bought the VFO-820 (#640497)
>and the SP-820 (#661413). The AT-230 (#3010185)
>came next in 1980. The rig was so hot at the
>time that I thought this was the last rig I'd
>own. After some cap replacements and other
>service work along the way, the rig works as
>good as the day I excitedly brought it home.
>
>Doug, WF4B
>

47716. TS-830 Power Supply problem: (I think).

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-16 05:52:10 UTC
From: <james9194@...>
Topic: 47716 Message: 47716

I have a TS-830 which has served me well for quite a few years until recently. I'm asking these questions just in case someone may have seen something similar. When I turn my 830 the frequency window comes on and then slowly goes black. The transceiver is dead; transmit and receive The lights in the S meter stays lit. Suggestions anyone?
73 Jim
WU7G

47717. Difference

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-16 17:06:19 UTC
From: Joe - W7RKN
Topic: 47717 Message: 47717

What is the difference between a
TS-520, a TS-520S, and a TS-520SE??

And..What is a non-functional TS-520 worth? (No TX, but does RX) Roughly...radio looks clean in the pictures)

And an obvious (I think) observation: My TS-820 and and TS-820S are a step, or two, up from the TS-520??

(Still looking for a DG-1 'kit' for my TS-820 plain)

Thanks!

Joe - W7RKN

47718. Re: [TS-520_820_530_830] Difference

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-16 17:47:03 UTC
From: Mike W5RKL
Topic: 47717 Message: 47718

Joe,

The TS-520 was the first in the series of 520s. It did not have 160 meters, came with the DC to DC converter standard, the dial was white, and the meter switch was on the right of the dial as an outer ring switch that is part of the LOAD control and the fixed (CH SELECT) crystal select switch (4 positions) was to the left of the dial (right of the meter), there was not attenuator switch, and JJY/WWV was a "push button" on the front panel.

The TS-520S was the second in the series of 520s. It had 160 meters, the DC to DC converter was an "optional" accessory, the dial was dark, and the meter switch was moved to the left of the dial. The fixed (CH SELECT) crystal select switch (4 positions) was moved to the right of the dial and made as an outer ring switch that is part of the LOAD control. The JJY/WWV band select was moved to the band switch, the "AUX" (receive only) position was added to the band switch, and the JJY/WWV Push Button switch became the RF ATT (RF ATTenuator) switch. The DX PULL ON switch was relabled "PROCESSOR PULL ON" and the 6146 final amplifier tube sockets were mounted on a PC board labled "FINAL UNIT X56-1220-00" rather than mounted to holes punched in the chassis with point to point wiring as they were in the TS-520.

The TS-520SE was the last of the TS-520 series. Not many changes between the TS-520S and TS-520SE. The HEATER switch was eliminated, replaced with a "WIDE/NAR" switch (the filaments were lite as soon as main power was turned on), and the TS-520SE was designed to operate on "120/240VAC" ONLY, no DC power option.

Yes, the TS-820 and TS-820S were a step up from the TS-520 series. The TS-820 and TS-820S were identical except for the digital display. Check with Bob Mansker, ke5ftf at mail dot com, he may have a digital display assembly and display tube for your TS-820.

73
Mike W5RKL

On 2/16/2014 11:06 AM, Joe - W7RKN wrote:
>
> ☐
>
> What is the difference between a
> TS-520, a TS-520S, and a TS-520SE??
> And..What is a non-functional TS-520 worth? (No TX, but does RX)
> Roughly...radio looks clean in the pictures)
> And an obvious (I think) observation: My TS-820 and and TS-820S are a

> step, or two, up from the TS-520??
> (Still looking for a DG-1 'kit' for my TS-820 plain)
> Thanks!
> Joe - W7RKN
>

47719. Re: [TS-520_820_530_830] Difference

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-16 17:55:05 UTC
From: Joe - W7RKN
Topic: 47717 Message: 47719

Thanks Mike!!!

Joe - W7RKN
----- Original Message -----
From: Mike W5RKL
Subject: Re: [TS-520_820_530_830] Difference

Joe,

The TS-520 was the first in the series of 520s. It did not have 160 meters,

47720. Re: [TS-520_820_530_830] Difference

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-16 18:10:26 UTC
From: Ron
Topic: 47717 Message: 47720

What do want to give for dg-1 kit I might have 1

Ron KK4PWF

On Feb 16, 2014, at 11:06 AM, Joe - W7RKN <w7rkn.7@...> wrote:

> □
>
> What is the difference between a
> TS-520, a TS-520S, and a TS-520SE??
>
> And..What is a non-functional TS-520 worth? (No TX, but does RX) Roughly...radio looks clean in the pictures)
>
> And an obvious (I think) observation: My TS-820 and and TS-820S are a step, or two, up from the TS-520??
>
> (Still looking for a DG-1 'kit' for my TS-820 plain)
>
> Thanks!
>
> Joe - W7RKN
>
>
>

47721. Re: [TS-520_820_530_830] Difference

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-16 19:23:00 UTC
From: Mike W5RKL
Topic: 47717 Message: 47721

Joe,

You asked what a partially working TS-520 would be priced at. That's not easy to do. What I or anyone else would price a partially working TS-520 may not be what you would price that same 520 at. It all depends on what a person is willing to pay.

73
Mike W5RKL

On 2/16/2014 11:55 AM, Joe - W7RKN wrote:
>
> Thanks Mike!!!
> Joe - W7RKN
>
> ----- Original Message -----
> *From:* Mike W5RKL <mailto:w5rkl@...>
> *Subject:* Re: [TS-520_820_530_830] Difference
>
> Joe,
>
> The TS-520 was the first in the series of 520s. It did not have
> 160 meters,
>
>

47722. Possible Power Supply Problem in a TS-830S?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-16 18:44:02 UTC
From: Jim Best
Topic: 47722 Message: 47722

I have a TS-830 which has served me well for quite a few years until recently. I'm asking these questions just in case someone may have seen something similar. When I turn my 830 the frequency window comes on and then slowly goes black. The transceiver is dead; transmit and receive The lights in the S meter stays lit. Suggestions anyone?

73 Jim

WU7G

47723. Re: [TS-520_820_530_830] Possible Power Supply Problem in a TS-830S?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-16 20:02:13 UTC
From: Mike W5RKL
Topic: 47722 Message: 47723

Sounds to me as though you loss the 12 supply. Check the AF Unit's "12" terminal, should be 12VDC.

73
Mike W5RKL

On 2/16/2014 12:44 PM, Jim Best wrote:
>
> I have a TS-830 which has served me well for quite a few years until
> recently. I'm asking these questions just in case someone may have
> seen something similar. When I turn my 830 the frequency window comes
> on and then slowly goes black. The transceiver is dead; transmit and
> receive The lights in the S meter stays lit. Suggestions anyone?
>
> 73 Jim
>
> WU7G
>
>

47724. YG455C subs ?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-16 20:04:30 UTC
From: Chris Kepus
Topic: 47724 Message: 47724

Before proceeding, I am looking for a YG455C. If anyone has one that are willing to part with, please contact me off list.

Now. in the event no filter comes my way, I am curious if the experimenters out there have tried to sub in any of the other 455 Khz center frequency filters in their 830S?

Specifically thinking of the Collins filters (455 khz center freq - 500 hz BW - courtesy WA3KEY) shown below.

455 kc 455E-05 526-9321- 00 0.5 kc 2.5 kc E

455 kc F455F-05 526-9318- 00 0.5 kc 2.5 kc F

* 455 kc F455FA-05 526-9494- 00 0.5 kc 2.5 kc FA

455 kc F455H-05 526-9229- 00 0.5 kc 2.5 kc H

* 455 kc F455J-05 526-9154- 00 0.5 kc 2.5 kc J

455 kc F455K-05 526-9228- 00 0.5 kc 2.5 kc K

Just thinkin'.

73

Chris

W7JPG

"Any day above ground is a good day"

[Non-text portions of this message have been removed]

47727. Re: [TS-520_820_530_830] Difference

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-16 21:32:58 UTC
From: Jay
Topic: 47717 Message: 47727

For the 520 models the difference is mostly age, The 520SE replaced the 520S which replaced the 520. the 520SE has a builtin power supply but doesn't have the option of running on 12V. The 820 models are Deluxe versions of the same ideas. and the ts_#30 models have the WARC bands.

On 2/16/2014 11:06 AM, Joe - W7RKN wrote:
> □
>
> What is the difference between a
> TS-520, a TS-520S, and a TS-520SE??
> And..What is a non-functional TS-520 worth? (No TX, but does RX)
> Roughly...radio looks clean in the pictures)
> And an obvious (I think) observation: My TS-820 and and TS-820S are a
> step, or two, up from the TS-520??
> (Still looking for a DG-1 'kit' for my TS-820 plain)
> Thanks!
> Joe - W7RKN
>
>
>

47728. TS-530S/830S rubber bulb holder needed

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-16 22:14:40 UTC
From: Craig Roberts
Topic: 47717 Message: 47728

Hey y'all,

Does anyone have a couple of spare blue rubber (silicone, I'm guessing)
VFO dial/meter bulb holder thingies? Two of the three on my 830S are split.

Thanks!

73,

Craig
W3CRR

47732. Re: [TS-520_820_530_830] TS-830s "Silver Ring" around VFO knob, "mod check?"

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-17 01:40:02 UTC
From: W LEWIS
Topic: 47732 Message: 47732

In answer to your first question, read section 4.7 "Analog Dial Calibration" on page 21.
Butch
KØPSA

On Sun, 2/16/14, Overand <overand@...> wrote:

Subject: [TS-520_820_530_830] TS-830s "Silver Ring" around VFO knob, "mod check?"
To: TS-520_820_530_830@yahoogroups.com
Date: Sunday, February 16, 2014, 12:39 PM

Alright, folks. New owner of a TS-830s
here, in apparently good- enough- to-receive condition.
(After fixing some stuff mentioned below).
First question: There's a silver ring with
lines on it, around the VFO knob. What is it? Is spring
loaded, apparently, but doesn't seem to do anything. It
normally turns with the knob, or if I push it back (against
the spring) it can be stationary.

I can't for the life of me figure out what
it could be for other than aesthetics.
Question two: I'm curious about the county
of origin. This thing came wired for 220 US, but based on
the wiring, it did not come from the factory that way. The
power cord was in TERRIBLE condition (crunchy, exposed
copper), so I replaced it and rewired the transformer for
110 with the help of Freenode IRC ##hamradio.

Everything seems fine, but I'm wondering
WHY someone might have done this. I'm curious if the
thing is "tweaked" for a higher powerful output,
or had been adulterated in any other ways.

So, what should I be looking for in this rig,
especially I suppose in the PA stage, to see if it's
been meddled with?
Also, I assume this was US 'origin,'
but I don't ACTUALLY know that. Anything obvious that
would set it apart? (I don't know much about
international ham allocations).

47733. Re: [TS-520_820_530_830] Difference

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-17 01:44:27 UTC
From: <wagstw46@...>
Topic: 47717 Message: 47733

Need to lay the 520 schematic next to the 520S and study the circuit differences. Take a look at Gen Board and RF board for starters. If I could only buy one of the 520 series it would be the 520S as it has better receiver front end. Better RX intermod and better 2 signal blocking characteristics mainly due to addition of a switched capacitive voltage divider that reduces signal level to 1st mixer on the lower bands and allows 10 meters to run hot. Too many differences to list all here.

Terry K9TW

47734. RE: TS-530S/830S rubber bulb holder needed

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-17 02:06:18 UTC
From: <wagstw46@...>
Topic: 47717 Message: 47734

Hi Craig:

Last ones I got from Bob Mansker.

I was looking at the NCH Tone generator contemplating purchase and one thing I dont see is what output level reference they use. My guess would be 0dBu = 0.775v, but I didnt see it mentioned anywhere. Do you know what it is?

When you used it to adjust the Carrier set point what dB level did you set if for to inject into your mic line? I would expect 7mv would be approx -41dB and 10mv would be approx -37.7dB? Did you measure the output level? My Leader Audio Gen has both dB and rms volts meter scales and it is pretty accurate, but I usually measure it with HP3400 and watch to make sure stays constant level as I move from 200hz to 3000hz.

The Leader is getting long in the tooth and thinking about going the lap top way. I realize output will be stepped and not as likely to be able to sweep the output frequency slowly either side of roll off point as you would with an analog gen. I assume can get 1 hz +/- steps? My guess is that continuous frequency change would be pretty fast rate and touchy and not as smooth as it is with vernier tuning on the analog generators?

OK to answer off the list.

Terry K9TW

47735. RE: TS-530S/830S rubber bulb holder needed

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-17 03:15:45 UTC
From: <ke5ftf@...>
Topic: 47717 Message: 47735

Hi Craig,
I have the bulb & blue/green holder for $2.00 each plus my cost to mail at $3.00
Bob
KE5FTF

47736. Re: [TS-520_820_530_830] Possible Power Supply Problem in a TS-830S?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-17 05:09:09 UTC
From: <james9194@...>
Topic: 47722 Message: 47736

Thanks Mike,
I'll check that. I hope you are right.
73 Jim
WU7G

47737. VFO-230

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-17 11:51:49 UTC
From: <oe3pvc@...>
Topic: 6370 Message: 47737

Hello.

I just bought a VFO-230.

I am using it with my TS-830S.

When I am on for example 14.000MHz and the functions receive is on VFO the Display og the VFO-230 states 0.0 anf the TS-830S states 14.380.

Trying to change the main tuning of the VFO-220 until the VFO states L 900.0 the TS-830S states 14.280MHz...

Maybe the VFO needs to be calibrated, but how?

Any idea how to calibrate this unit?

Vy 73 de Peter

47738. RE: Difference

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-17 13:12:55 UTC
From: <hardedge@...>
Topic: 47717 Message: 47738

Joe -
If you scan through Universal Radio...
http://www.universal-radio.com/catalog/hamhf/ts520.html
http://www.universal-radio.com/catalog/hamhf/ts520.html
http://www.universal-radio.com/catalog/hamhf/ts520s.html
http://www.universal-radio.com/catalog/hamhf/ts520s.html
http://www.universal-radio.com/catalog/hamhf/ts520se.html
http://www.universal-radio.com/catalog/hamhf/ts520se.html

... it might help. There are differences but in many cases they seem to be nuanced.

What's an RX but no TX 520 worth? As much as I can get for it on eBay! :-) I originally paid $315 for it, got back $100 when it arrived non-working, and put $79 in "new" tubes for it (driver and finals). I'm selling it for $255 (Start bid) so I'm still in the hole but I may break even if it gets bid up. For this radio, the fact that it's in good cosmetic shape and receives well, plus the replacement tubes had me set that value. For others it may be different, up or down. That's the best I can tell you.

Are there differences between the 820 and 520? I'm sure I'll get an argument but, for my usage, it still amounts to minor difference and major nuance. I got my TS-820s thinking I'd pair it with an R-820 but when I found out what the R-820 was going for these days I nearly crapped my pants. (Sorry for the imagery.) Kept the 820s anyway but got the T-599d and R-599d twins. Half the price of just the R-820.

Personally, I wanted a digital display for my 520 (the working one), looked at the DG-5 and all that it involved and then bought a DD-103 (http://www.electronicspecialtyproducts.com/dd103.html). Plugged it in to the VFO port and it miraculously worked right out the box (after about 5 minutes of adjustment from what has to be the worst user manual I've ever read --and you do NEED to read the manual). They're advertised for the 520 and 820 (and I presume that extends to the "s" versions but winter came upon me before I could play around). It's about $180 for the display and cable so it's price competitive with the.DG-1, Just not branded "Kenwood." (Letraset anyone? hihi)

Hoped some of that helped.

-O'B.
ex-KA2MKI

47739. Re: [TS-520_820_530_830] RE: Difference

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-17 13:24:15 UTC
From: Mike W5RKL
Topic: 47717 Message: 47739

OB,

The operator manuals for both models, 520 and 820, will show you what
the differences are.

73
Mike W5RKL

On 2/17/2014 7:12 AM, hardedge@... wrote:
>
> Joe -
> If you scan through Universal Radio...
> http://www.universal-radio.com/catalog/hamhf/ts520.html
> http://www.universal-radio.com/catalog/hamhf/ts520s.html
> http://www.universal-radio.com/catalog/hamhf/ts520se.html
>
> ... it might help. There are differences but in many cases they seem
> to be nuanced.
>
> What's an RX but no TX 520 worth? As much as I can get for it on eBay!
> :-) I originally paid $315 for it, got back $100 when it arrived
> non-working, and put $79 in "new" tubes for it (driver and finals).
> I'm selling it for $255 (Start bid) so I'm still in the hole but I may
> break even if it gets bid up. For this radio, the fact that it's in
> good cosmetic shape and receives well, plus the replacement tubes had
> me set that value. For others it may be different, up or down. That's
> the best I can tell you.
>
> Are there differences between the 820 and 520? I'm sure I'll get an
> argument but, for my usage, it still amounts to minor difference and
> major nuance. I got my TS-820s thinking I'd pair it with an R-820 but
> when I found out what the R-820 was going for these days I nearly
> crapped my pants. (Sorry for the imagery.) Kept the 820s anyway but
> got the T-599d and R-599d twins. Half the price of just the R-820.
>
> Personally, I wanted a digital display for my 520 (the working one),
> looked at the DG-5 and all that it involved and then bought a DD-103
> (http://www.electronicspecialtyproducts.com/dd103.html). Plugged it in
> to the VFO port and it miraculously worked right out the box (after
> about 5 minutes of adjustment from what has to be the worst user
> manual I've ever read --and you do NEED to read the manual). They're
> advertised for the 520 and 820 (and I presume that extends to the "s"
> versions but winter came upon me before I could play around). It's
> about $180 for the display and cable so it's price competitive with
> the.DG-1, Just not branded "Kenwood." (Letraset anyone? hihi)
>

> Hoped some of that helped.
>
> -O'B.
> ex-KA2MKI
>
>

47740. RE: Difference

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-17 15:32:18 UTC
From: <wagstw46@...>
Topic: 47717 Message: 47740

Man you cant be serious? Saying that the differences between a TS520 and TS820 are "nuances" of any kind is amazing. Kind of like a man saying the difference between a 1960 Chevy with carburetor and breaker point ignition and a 1990 Chevy with computer controlled fuel injection and pointless ignition are nuances. I like not having to "set the choke" or gum-out clean the choke or to have to replace points, rotor, condenser and plugs every 12000 miles not to mention leaps in improvement in cold start, drivability, fuel economy etc. About the only thing I miss is the sound of those secondaries opening on that 4 barrel carb!

I suppose you could say that comparing the physical size, front panel control layout, and feel of the planetary gear drive could be considered "nuances". After that in my book some real substantive differences from an operating, performance, and maintenance perspective.

The differences between a TS520 and TS820 are night and day if you are a student of the brand and a sophisticated operator.

1. Single conversion (quieter)
2. PLL (far fewer spurs and birdies that plague the TS520)
3. IF Shift (passband tuning is self explanatory in crowded band conditions)
4. RF Monitor (nice operator and maintenance aid)
5. True RF compressor (455 IF and not audio processing)
6. RF negative feedback (ok I will give you this one, but nice to have if you try to load in to an open not to mention cleaner output signal)
7. In some ways actually easier to troubleshoot and repair due to the as built config and layout. Less component density and more room with the terminal posts and wires moved off the boards. Other than the digital display issues and a very poor service manual a pretty easy rig to troubleshoot and align.

Nothing wrong with the TS520 (basic collins het osc conversion scheme copy). I started with one and still have one but seldom operate it. Best thing is to own all the KW hybrids at one time or another.

If you are contemplating buying a TS520 go ahead and do so and enjoy it. I hope with time you can progress right up thru the models to a full filtered TS-830. Only then will you be able to decide if you could keep and operate one which model that would be. Depends on if you are a contester, a dx chaser, a CW op as well as what your definition of quality is. One mans must have function or feature may well be another mans "nuance".

Terry K9TW

47741. Re: [TS-520_820_530_830] RE: Difference

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-17 15:40:24 UTC
From: Joe - W7RKN
Topic: 47717 Message: 47741

My interest is finding a basic HF radio, one I will clean up, repair any deficiencies I find and then put it in service as a loaner to new Generals. I have several low band verticals that are semi portable I loan as well.....

I try and support the local ham community, in any small way I can. Several years ago, I bought 10 Yeasu FT-5100's at a ham swap, that were broken. I was able to get 8 of them up and running again.....ALAS, they are all gone now....I gave them all to new techs to get them on the air...then one the local ham clubs had a J-Pole party and made VHF/UHF J-Poles, that we included with each radio 'give-a-way', All the materials and location to build them, were donated by a local plumbing company and cable and connectors donated by a contest station, here in Northwest.

Those were the days...Seriously, the days of true comadrieship in this hobby are long gone....I really believe the 'relaxing' of ticket requirements, are the reason. ie: No more code, dumping down of the tests, etc. Almost the same now as getting Citizen's Band license. :(

OK, off my soap box.....

Joe - W7RKN

----- Original Message -----
From: hardedge@...
To: TS-520_820_530_830@yahoogroups.com
Sent: Monday, February 17, 2014 5:12 AM
Subject: [TS-520_820_530_830] RE: Difference

Joe -
If you scan through Universal Radio...
http://www.universal-radio.com/catalog/hamhf/ts520.html
http://www.universal-radio.com/catalog/hamhf/ts520s.html
http://www.universal-radio.com/catalog/hamhf/ts520se.html

... it might help. There are differences but in many cases they seem to be nuanced.

What's an RX but no TX 520 worth? As much as I can get for it on eBay! :-) I originally paid $315 for it, got back $100 when it arrived non-working, and put $79 in "new" tubes for it (driver and finals). I'm selling it for $255 (Start bid) so I'm still in the hole but I may break even if it gets bid up. For this radio, the fact that it's in good cosmetic shape and receives well, plus the replacement tubes had me set that value. For others it may be different, up or down. That's the best I can tell you.

Are there differences between the 820 and 520? I'm sure I'll get an argument but, for my usage, it still amounts to minor difference and major nuance. I got my TS-820s thinking I'd pair it with an R-820 but when I found out what the R-820 was going for these days I nearly crapped my pants. (Sorry for the imagery.) Kept the 820s anyway but got the T-599d and R-599d twins. Half the price of just the R-820.

Personally, I wanted a digital display for my 520 (the working one), looked at the DG-5 and all that it involved and then bought a DD-103 (http://www.electronicspecialtyproducts.com/dd103.html). Plugged it in to the VFO port and it miraculously worked right out the box (after about 5 minutes of adjustment from what has to be the worst user manual I've ever read --and you do NEED to read the manual). They're advertised for the 520 and 820 (and I presume that extends to the "s" versions but winter came upon me before I could play around). It's about $180 for the display and cable so it's price competitive with the.DG-1, Just not branded "Kenwood." (Letraset anyone? hihi)

Hoped some of that helped.

-O'B.
ex-KA2MKI

47742. Re: [TS-520_820_530_830] RE: Difference

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-17 16:17:15 UTC
From: Joe - W7RKN
Topic: 47717 Message: 47742

HEH...this is gonna get interesting.....!!!

Terry...Maybe no more 'carb cleaning' the choke, etc., but on all the new, 'modren' F.I. systems, it is mandatory the MAF is pulled at least every 60k miles (Or when your mileage starts to deteriorate!) and cleaned..the ports all gum up and need to be soaked in carb cleaner for 30 minutes or so. BMW even had issues with the intake system that necessitated pulling the entire intake manifold and walnut shell blasting it, to clean out the gunk, none of which was under any warranty policy.

OK..back to radios.....As you have already read by now, my interest in this particular 520 is not for me....I have 2 820's, 1 an S and the other plain vanilla, but my main Tube radio I use are my Drakes. (R-4B, TX-4B, L-4B, etc. w/ all the accrudiments, MN2000, upgraded AC-4 power supplies, etc. (Yes I have two complete "B" sets including the amplifiers...)

But my main radio is my TS-2000X, the good old 'Shack In A Box!' pushing a 23 year old Henry 2KD Classic with a factory updated transformer. It can loaf all day long at 1300 watts out.....it is so clean and strong. I rarely, if ever, push it over 500 watts out..just not needed, even in a major pile-up.....the superb audio characteristics of the 2k, and the Henry, will blow through almost anything.

Every now and again, I dig out either of the two 820's and run them for a couple of days, just to keep them at tip top performance.

My only real issue with my Kenwood hybrids, is the VFO820 I got from Steve (I think it was) a couple of years ago. I lose weight trying to keep up with it until it warms up..that sucker drifts up a storm before it settles down and stabilizes...even then I have to keep 'touching' it up a bit, but that is minor..no more than from Donald Duck down to the Duck when he is hoarse. LOL. Some day I will get around to looking at the caps in it...but first, as I know very little about external VFO's, I will consult you guys about what to poke and prod...

Joe - W7RKN

----- Original Message -----
From: wagstw46@...
To: TS-520_820_530_830@yahoogroups.com
Sent: Monday, February 17, 2014 7:32 AM
Subject: [TS-520_820_530_830] RE: Difference

Man you cant be serious? Saying that the differences between a TS520 and TS820 are "nuances" of any kind is amazing. Kind of like a man saying the difference between a 1960 Chevy with carburetor and breaker point ignition and a 1990 Chevy with computer controlled fuel injection and pointless ignition are nuances. I like not having to "set the choke" or gum-out clean the choke or to have to replace points, rotor, condenser and plugs every 12000 miles not to mention leaps in improvement in cold start, drivability, fuel economy etc. About the only thing I miss is the sound of those secondaries opening on that 4 barrel carb!

Terry K9TW

47743. Re: [TS-520_820_530_830] Comments (was Difference)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-17 16:24:54 UTC
From: K5MYJ
Topic: 47743 Message: 47743

I think I am seeing the same thing here in the Seattle area. Most interest is in VHF repeater activity. Very little interest tin the technical aspects of the hobby. The new people all want Plug and Play..

I've even noticed truckers (who used to use CB) using the local repeaters with out using any ID.

Sorry this has little to do with repairing Kenwood Hybrids.

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"

----- Original Message -----
From: Joe - W7RKN
To: TS-520_820_530_830@yahoogroups.com
Sent: Monday, February 17, 2014 7:40 AM
Subject: Re: [TS-520_820_530_830] RE: Difference

□

My interest is finding a basic HF radio, one I will clean up, repair any deficiencies I find and then put it in service as a loaner to new Generals. I have several low band verticals that are semi portable I loan as well.....

I try and support the local ham community, in any small way I can. Several years ago, I bought 10 Yeasu FT-5100's at a ham swap, that were broken. I was able to get 8 of them up and running again.....ALAS, they are all gone now....I gave them all to new techs to get them on the air...then one the local ham clubs had a J-Pole party and made VHF/UHF J-Poles, that we included with each radio 'give-a-way', All the materials and location to build them, were donated by a local plumbing company and cable and connectors donated by a contest station, here in Northwest.

Those were the days...Seriously, the days of true comadrieship in this hobby are long gone....I really believe the 'relaxing' of ticket requirements, are the reason. ie: No more code, dumping down of the tests, etc. Almost the same now as getting Citizen's Band license. :(

OK, off my soap box.....

Joe - W7RKN

----- Original Message -----
From: hardedge@...
To: TS-520_820_530_830@yahoogroups.com
Sent: Monday, February 17, 2014 5:12 AM
Subject: [TS-520_820_530_830] RE: Difference

Joe -
If you scan through Universal Radio...
http://www.universal-radio.com/catalog/hamhf/ts520.html
http://www.universal-radio.com/catalog/hamhf/ts520s.html
http://www.universal-radio.com/catalog/hamhf/ts520se.html

... it might help. There are differences but in many cases they seem to be nuanced.

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Personally, I wanted a digital display for my 520 (the working one), looked at the DG-5 and all that it involved and then bought a DD-103 (http://www.electronicspecialtyproducts.com/dd103.html). Plugged it in to the VFO port and it miraculously worked right out the box (after about 5 minutes of adjustment from what has to be the worst user manual I've ever read --and you do NEED to read the manual). They're advertised for the 520 and 820 (and I presume that extends to the "s" versions but winter came upon me before I could play around). It's about $180 for the display and cable so it's price competitive with the.DG-1, Just not branded "Kenwood." (Letraset anyone? hihi)

Hoped some of that helped.

-O'B.
ex-KA2MKI

47744. Dayton Hamvention 1st Ever Forum

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-17 16:29:25 UTC
From: Mark Gilger
Topic: 47744 Message: 47744

Jan, W8CBX is a active member of our Saturday Hybrid net on 40 meters. He's also a member of the Dayton club that puts on the Dayton Hamvention. Several weeks ago I put out a suggestion to our Hybrid Net group about how nice it would be to have a forum at Dayton. Jan took the ball and ran with it. He meet with the convention committee about getting us set up with a forum room.

Darn if they did not come through and give us one. That's great, but the bad thing is that it's Sunday, May 18, in room #2 from 10:30 - 11:30AM. Most of the guys I know are either already home on Sunday, or headed that way. myself included. Looks like I'll be there all 3 days this year. So if it's not too late to change your plans, we would love to see you at the Forum this year.

Very preliminary topic subjects that Jan and I discussed are:

1) History of the Legacy products TS-510 - TS-830's.
2) Resource help with Parts, Documentation presentation.
3) SDR integration into the Legacy line.
4) Rewinding TS-830s L41 coil
5) Questions and Answer session

After the first years forum is out of the way, the plans are to ask for a better time slot for Friday or Saturday. It's our opinion that we wouldn't have much chance asking for a better time slot without first getting this first one off the ground and showing interest enough to warrant a better spot. Maybe a full room standing room only would work....

So mark your calendars:

Sunday, May 18, in room #2 from 10:30 - 11:30AM

73's,
Mark, WB0IQK

47745. Re: [TS-520_820_530_830] RE: Difference

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-17 17:34:08 UTC
From: Mike W5RKL
Topic: 47717 Message: 47745

Gentlemen,

If you want to discuss cars and why hams don't study for their licenses, please do it through private email. This group is not about those subjects but rather the group is about Kenwood TS-520, TS-820, TS-530, TS-830 and a few other Kenwood transmitter and receiver hybrids, not automobiles and helping other members with their hybrid problems.

I am also am seeing some members who are still not adding the message signature to the end of their messages! Each member who applied for and was approved as a member was sent a message outlining the simple rules of this group which includes the requirement for each member who posts messages on this group to add a signature at the end of the member's messages. If you do not know what the signature rules is then you need to read the message sent to you when your membership was approved! If you did not read the message sent to you when your membership was approved, you possibly deleted it, then you will have to log onto the group's homepage, go to the Files section, and read the message in the auto message folder!

73
Mike W5RKL
Moderator

On 2/17/2014 10:17 AM, Joe - W7RKN wrote:
>
> □
>
> HEH...this is gonna get interesting.....!!!
> Terry...Maybe no more 'carb cleaning' the choke, etc., but on all the
> new, 'modren' F.I. systems, it is mandatory the MAF is pulled at least
> every 60k miles (Or when your mileage starts to deteriorate!) and
> cleaned..the ports all gum up and need to be soaked in carb cleaner
> for 30 minutes or so. BMW even had issues with the intake system that
> necessitated pulling the entire intake manifold and walnut shell
> blasting it, to clean out the gunk, none of which was under any
> warranty policy.
> OK..back to radios.....As you have already read by now, my interest in
> this particular 520 is not for me....I have 2 820's, 1 an S and the
> other plain vanilla, but my main Tube radio I use are my Drakes.
> (R-4B, TX-4B, L-4B, etc. w/ all the accrudiments, MN2000, upgraded
> AC-4 power supplies, etc. (Yes I have two complete "B" sets including
> the amplifiers...)
> But my main radio is my TS-2000X, the good old 'Shack In A Box!'
> pushing a 23 year old Henry 2KD Classic with a factory updated

> transformer. It can loaf all day long at 1300 watts out.....it is so
> clean and strong. I rarely, if ever, push it over 500 watts
> out..just not needed, even in a major pile-up.....the superb audio
> characteristics of the 2k, and the Henry, will blow through almost
> anything.
> Every now and again, I dig out either of the two 820's and run them
> for a couple of days, just to keep them at tip top performance.
> My only real issue with my Kenwood hybrids, is the VFO820 I got from
> Steve (I think it was) a couple of years ago. I lose weight trying to
> keep up with it until it warms up..that sucker drifts up a storm
> before it settles down and stabilizes...even then I have to keep
> 'touching' it up a bit, but that is minor..no more than from Donald
> Duck down to the Duck when he is hoarse. LOL. Some day I will get
> around to looking at the caps in it...but first, as I know very little
> about external VFO's, I will consult you guys about what to poke and
> prod...
> Joe - W7RKN
> ----- Original Message -----
>
> *From:* wagstw46@... <mailto:wagstw46@...>
> *To:* TS-520_820_530_830@yahoogroups.com
> <mailto:TS-520_820_530_830@yahoogroups.com>
> *Sent:* Monday, February 17, 2014 7:32 AM
> *Subject:* [TS-520_820_530_830] RE: Difference
>
> Man you cant be serious? Saying that the differences between a
> TS520 and TS820 are "nuances" of any kind is amazing. Kind of like
> a man saying the difference between a 1960 Chevy with carburetor
> and breaker point ignition and a 1990 Chevy with computer
> controlled fuel injection and pointless ignition are nuances. I
> like not having to "set the choke" or gum-out clean the choke or
> to have to replace points, rotor, condenser and plugs every 12000
> miles not to mention leaps in improvement in cold start,
> drivability, fuel economy etc. About the only thing I miss is the
> sound of those secondaries opening on that 4 barrel carb!
>
>
> Terry K9TW
>
>

47746. Re: [TS-520_820_530_830] RE: Difference

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-17 17:41:51 UTC
From: Joe - W7RKN
Topic: 47717 Message: 47746

Sorry boss!

I sometimes forget which groups will entertain brief excursions from group topic and which ones don't. I will try and remember to be more careful here.....Thanks for the reminder!

Joe - W7RKN
----- Original Message -----
From: Mike W5RKL
Subject: Re: [TS-520_820_530_830] RE: Difference

Gentlemen,

This group is not about those subjects but rather the group is about Kenwood TS-520, TS-820, TS-530, TS-830 and a few other Kenwood transmitter and receiver hybrids, not automobiles and helping other members with their hybrid problems.

47747. Re: [TS-520_820_530_830] Difference

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-17 18:24:01 UTC
From: <PJL660@...>
Topic: 47717 Message: 47747

Ron,
If you still have it, would you part with your DG-1 kit for $90? I've got a very nice TS-820 that I'd like to put it in.
Thanks,
Paul WB0TUX

---In TS-520_820_530_830@yahoogroups.com, wrote:

What do want to give for dg-1 kit I might have 1

Ron KK4PWF

Moderator note:
Message edited for length

□

47748. Re: [TS-520_820_530_830] Difference

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-17 21:12:13 UTC
From: Ron
Topic: 47717 Message: 47748

I'd part with it for 140.00 plus shipping

Ron KK4PWF

On Feb 17, 2014, at 12:24 PM, <PJL660@...> wrote:

>
>
> Ron,
>
> If you still have it, would you part with your DG-1 kit for $90? I've got a very nice TS-820 that I'd like to put it in.
>
> Thanks,
>
> Paul WB0TUX
>
>
>
> ---In TS-520_820_530_830@yahoogroups.com, wrote:
>
> What do want to give for dg-1 kit I might have 1
>
> Ron KK4PWF
>
>
> Moderator note:
> Message edited for length
>
>> □
>
>
>

47749. group policy/rules update

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-17 21:41:43 UTC
From: Joseph Stiles
Topic: 47749 Message: 47749

Greetings Group!

I hope we all made it through another Valentine's Day with our YL/XYL's or, OM's, as the case may be.

As promised earlier, the groups policies/rules have been updated. You should be able to view
the small change, in the files section under "auto text messages." If, for some reason, you can not
view it, let me know. All it deals with is the "signature(sig) lines" difficulty from a few weeks ago.
Also, several members who have seen fit to not abide by the group's policies/rules,
have been banned, claiming that they felt THEY did not have to PROPERLY identify themselves
according to the group's policies/rules because of their desire to remain
anonymous or, just did not want to do it.

The moderators and I, strive to keep this group "neutral," in as many aspects
as possible. We do however, realize that "opinions" vary. So, that being said,
let's move on, regard the policies/rules, respect others...and keep on with the
task of keeping these great rigs repaired and functioning for many years to come.

Thanks for your time, we now return you to the regular scheduled program.....

73 Joe
WB7UQU
TS-520_820_530_830 yahoo group Co-owner

47750. Re: [TS-520_820_530_830] Difference

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-17 21:53:50 UTC
From: Joe - W7RKN
Topic: 47717 Message: 47750

HEY!! I didn't even see that! I have been begging one for quite a while now! LOL. I have a TS-820 that is screaming for one...(It has better TX than my 820S..I may have to do some swapping....)

Joe - W7RKN
----- Original Message -----
From: PJL660@...
Subject: Re: [TS-520_820_530_830] Difference

Ron,

If you still have it, would you part with your DG-1 kit for $90? I've got a very nice TS-820 that I'd like to put it in.

Thanks,

Paul WB0TUX

---In TS-520_820_530_830@yahoogroups.com, wrote:

What do want to give for dg-1 kit I might have 1

Ron KK4PWF

47751. TS-820 Driver shield

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-17 23:49:10 UTC
From: <dougc314@...>
Topic: 47751 Message: 47751

Hello, I'm new to amateur radio, but not electronics. After getting my ticket I decided to get a TS-820 because it's from the era of electronics that I really enjoy working with. Unfortunately my radio has suffered a bit of "unauthorized access", which I need to undo. One of the things that I noticed is a ground strap for what must be a missing shield for the driver tube. I have some shields, or could easily fabricate something from some brass, or even mu-metal, sheeting .but would appreciate it if somebody could describe the OEM shield. What I want to know is what portion of the tube is sleeved. It's probably the whole length, but I would like to be certain, as the sleeve might make the tube run hotter.

Thanks, Doug C.

47752. TS-820 HET crystal source

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-17 23:58:45 UTC
From: <dougc314@...>
Topic: 47752 Message: 47752

Sadly, one of the most disappointing things I must undo to my recently acquired TS-820 is the fact that the 28 and 28.5 MHz HET crystals were replaced by crystals 1 MHz lower, for unmentionable reasons, I assume. Does anybody know of a source for the crystals? Back when I was designing crystal oscillators it was no big deal to specify a crystal and get prototype quantities. For product development the price wasn't an issue, but I would like to avoid a custom run if at all possible, just for repairing my radio, I know there are some on EBAY right now, if that's the going price, then I guess I'll try them on.

Regards, Doug C.

47753. Re: [TS-520_820_530_830] TS-820 HET crystal source

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-18 03:02:34 UTC
From: K5MYJ
Topic: 47752 Message: 47753

Contact International Crystal (ICM).

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"
----- Original Message -----
From: dougc314@yahoo.com
To: TS-520_820_530_830@yahoogroups.com
Sent: Monday, February 17, 2014 3:58 PM
Subject: [TS-520_820_530_830] TS-820 HET crystal source

Sadly, one of the most disappointing things I must undo to my recently acquired TS-820 is the fact that the 28 and 28.5 MHz HET crystals were replaced by crystals 1 MHz lower, for unmentionable reasons, I assume. Does anybody know of a source for the crystals? Back when I was designing crystal oscillators it was no big deal to specify a crystal and get prototype quantities. For product development the price wasn't an issue, but I would like to avoid a custom run if at all possible, just for repairing my radio, I know there are some on EBAY right now, if that's the going price, then I guess I'll try them on.

Regards, Doug C.

47754. Re: [TS-520_820_530_830] TS-820 HET crystal source

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-18 04:53:29 UTC
From: Joseph Stiles
Topic: 47752 Message: 47754

Doug,

I second Bob's recommendation. International Crystals is top notch. Expect to pay about $22 - $25 per crystal. Pricey? a bit...but you don't have to worry about them being off freq...or otherwise damaged...and their guarantee is excellent. Go to their web site and take a peek: www.icmfg.com You probably know why the crystals in question are 1 kHz low..CB HACK, aka "free banding" Take a very close look at the transformer and rectifier board wiring, and compare with schematic. If you see the "210" wire moved to the "300" post...that's to increase voltage to the final amplifier tubes screen. More volts...more power....bad idea!

73 Joe
WB7UQU

On Monday, February 17, 2014 7:02 PM, K5MYJ <macklinbob@...> wrote:

>□
>Contact International Crystal (ICM).
>
>Bob Macklin
>K5MYJ
>Seattle, Wa.
>"Real Radios Glow In
The Dark"
>----- Original Message -----
>>From: dougc314@...
>>To: TS-520_820_530_830@yahoogroups.com
>>Sent: Monday, February 17, 2014 3:58 PM
>>Subject: [TS-520_820_530_830] TS-820 HET crystal source
>>
>>
>>Sadly, one of the most disappointing things I must undo to my recently acquired TS-820 is the fact that the 28 and 28.5 MHz HET crystals were replaced by crystals 1 MHz lower, for unmentionable reasons, I assume. Does anybody know of a source for the crystals? Back when I was designing crystal oscillators it was no big deal to specify a crystal and get prototype quantities. For product development the price wasn't an issue, but I would like to avoid a custom run if at all possible, just for repairing my radio, I know there are some on EBAY right now, if that's the going price, then I guess I'll try them on.
>>
>>
>>Regards, Doug C.
>
>
>

47755. Re: [TS-520_820_530_830] TS-820 Driver shield

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-18 05:00:35 UTC
From: Joseph Stiles
Topic: 47751 Message: 47755

Doug,

  The tube shield on the 12by7a driver, covers the whole tube, excluding the top...so it's just a cylinder...the long metal tang ground goes between the shield and the tube. Several members are running their rigs with no shield and have reported no ill effects.

  Also, I noticed that you have your "ticket." Congrats. So, in keeping with the groups policies/rules, you need to include your call with your name when signing posts.

Tnx

73 Joe
WB7UQU
Group Co-owner

On Monday, February 17, 2014 6:47 PM, "dougc314@..." <dougc314@...> wrote:

>Hello,
>I'm new to amateur radio, but not electronics. After getting my ticket I decided to get a TS-820 because it's from the era of electronics that I really enjoy working with. Unfortunately my radio has suffered a bit of "unauthorized access", which I need to undo. One of the things that I noticed is a ground strap for what must be a missing shield for the driver tube. I have some shields, or could easily fabricate something from some brass, or even mu-metal, sheeting .but would appreciate it if somebody could describe the OEM shield. What I want to know is what portion of the tube is sleeved. It's probably the whole length, but I would like to be certain, as the sleeve might make the tube run hotter.
>
>
>Thanks, Doug C.
>
>
>

47756. TS-830s on e-pay

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-18 15:37:52 UTC
From: KB1TCD
Topic: 47756 Message: 47756

Hi all!

Went to e-pay last night and found three TS-830S radios.
One in "collector condition" for $1,250.00 (I am now making sure no one comes anywhere
near my radio...hi, hi)
One with starting bid at $500 and buy it now for $800 that stated the radio does AM and CW. I brought the AM part to the seller and he has now fixed it.
Seller wrote: "That description is what Ebay selected out of their 'catalog'. "
There is another for $450 and but it now for $700, also said AM and CW.
Leave it to e-pay...

BTW, I also have a Yaesu 897D and the audio is so poor compared to the 830S that I only use the Yaesu for 6m and digital...that much of a difference!

73 from Mid Coast, ME

Jose Douglas KB1TCD

47757. Re: TS-830s on e-pay

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-18 18:53:49 UTC
From: James Scribner
Topic: 47756 Message: 47757

Jose Douglas,
If memory serves me the TS-830M model does have AM!
73
W5SWM
Jim

47758. Re: [TS-520_820_530_830] Re: TS-830s on e-pay

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-18 19:06:36 UTC
From: W LEWIS
Topic: 47756 Message: 47758

You are correct. The "M" does have AM.
73,
Butch
KØPSA

From: James Scribner <swpthg@...>
To: TS-520_820_530_830@yahoogroups.com
Sent: Tuesday, February 18, 2014 12:53 PM
Subject: [TS-520_820_530_830] Re: TS-830s on e-pay

Jose Douglas,
If memory serves me the TS-830M model does have AM!
73
W5SWM
Jim

47759. RE: TS-530S/830S rubber bulb holder needed

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-18 19:20:42 UTC
From: <crgrbrts@...>
Topic: 47717 Message: 47759

Hi Terry, et al,

Regarding the NCH Tone Generator software, I honestly do not know what the output level is and did not measure it. When adjusting the frequency response of the SSB filters in my TS-830S and TS-530S, I injected the generator's output into the radios' mic inputs through the Tigertronics SignaLink USB interface that I employ for digital modes, adjusting its output for a clean sounding signal. I have been getting complimentary transmit audio reports from both radios since -- including a report of "perfect response" from a fellow monitoring my signal on a scope. Therefore, I have left well enough alone and have not done any further investigation of the software's capability (which is largely undocumented by the makers).

Sweep tones (log or linear) can be generated in 1 Hz increments over any desired time period. Multiple tones can be generated simultaneously (useful for two-tone SSB testing, for instance). It's pretty nifty.
The software can be downloaded on a trial basis at http://www.nch.com.au/tonegen/index.html http://www.nch.com.au/tonegen/index.html and the purchase price is quite reasonable.

My next purchase is going to be the Elecraft XG3 RF Signal Source to replace the ancient and ailing AN/URM 25 generator I now use. I am also investigating PC based oscilloscopes; attemptng to find one that is both useful and affordable.
73,

Craig
W3CRR

47760. TS-830S ALC glitch

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-18 19:59:16 UTC
From: <crgrbrts@...>
Topic: 47760 Message: 47760

Yesterday I finally got around to doing a rough and superficial alignment of my TS-830S using the simplified, no-test-instrument-needed sequence in the radio's user's manual. All went well. Well -- almost all went well until I re-introduced an anomaly that had been apparent before I began the extensive repair and refurbishing that has yielded an 830 that looks and performs as new. Almost.

On the first 50-75 KHz of 40 meters -- and only there -- ALC is glitchy. When in TUNE position, rotating the DRIVE control results in flaky ALC readings -- not a smooth response but rough readings with at least two peaks as if responding to a dirty control. Ultimately, output is normal and, as I said, this "scratchy" ALC metering occurs only on the low end of 40 meters.

One might suspect that the three DRIVE control variable cap sections are out of sync or suffering from uneven rotation caused by those pesky cracked nylon upper sprocket wheels. Yet, when the DRIVE control is rotated through the same arc on other bands, the glitch does not occur.

As I mentioned, we experienced this problem once before. I resolved it by peaking the transmit drive coil at a frequency of about 7.050 MHz rather than the specified 7.150 MHz, but that seems like a cheat. I'd like to get the radio performing "by the book."

Any ideas?

Oh, I have ordered a set of NR6C's reproduction drive control sprocket wheels and anxiously await their arrival. Perhaps Gregory's terrific replacements will somehow cure this unpleasantness. We shall see. I'll let you know.

73,

Craig
W3CRR

47761. Re: [TS-520_820_530_830] Re: TS-830s on e-pay

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-18 20:02:31 UTC
From: KB1TCD
Topic: 47756 Message: 47761

Jim,

But the ones that are offered on e-pay are TS-830S models...
73
Jose Douglas
KB1TCD

On 2/18/2014 1:53 PM, James Scribner wrote:
> Jose Douglas,
> If memory serves me the TS-830M model does have AM!
> 73
> W5SWM
> Jim

47762. 520s no receive

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-18 19:40:00 UTC
From: <leonardmiller579@...>
Topic: 47762 Message: 47762

Hello, my name is Leonard (WV3P). I have a 520s that has no receive. None of the bands work including wwv. So far here's what I've done. I've cleaned both relays, the VFO, and all the switches. That seemed to fix the marker which I can now hear. I also hear what I consider to be a white noise coming from the speaker. I can turn the volume up & down and that does work, but I can't receive any signals when hooked up to an antenna. Can you guys give me an idea of where to start troubleshooting this radio? I did use another radio to transmit a signal while my son tried to tune it in on the 520s. He said he could hear something on the receive, but no S-meter movement and the signal was very distorted. The transmitting antenna was approximately 50 ft from the 520. I'm not sure if that helps or not. I do have a signal generator, oscilloscope, frequency counter and voltmeter, but I've never done any real troubleshooting. Thanks for any help.

47763. How to connect a TS-830s to AL-811 amp

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-18 19:33:31 UTC
From: LANNIE WINDHAM
Topic: 47763 Message: 47763

What ist the best way to connect?
Do reduce the power, if so how??

AK4QB
James

47764. Re: How to connect a TS-830s to AL-811 amp

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-18 21:06:36 UTC
From: Michael George
Topic: 47763 Message: 47764

Yes, you will want to reduce power by using the CARRIER LVL adjustment to a level that your amplifier can use as not to overdrive.

I have a SB220 connected to my TS-830 and with excellent results. I adjust the output power of the TS-830 to abt 50 watts exciter power. This drive level provides an amplifier output of abt 550 watts. I also use an Ameritron ARB-704 as an interface to protect the transceiver.

Hope this helps, enjoy the hobby as I do.

73,

Mike/K3MG

47765. Re: [TS-520_820_530_830] Re: How to connect a TS-830s to AL-811 amp

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-18 22:21:59 UTC
From: LANNIE WINDHAM
Topic: 47763 Message: 47765

thanks

On Tuesday, February 18, 2014 3:06 PM, Michael George <hpdd709@gmail.com> wrote:

Yes, you will want to reduce power by using the CARRIER LVL adjustment to a level that your amplifier can use as not to overdrive.

I have a SB220 connected to my TS-830 and with excellent results. I adjust the output power of the TS-830 to abt 50 watts exciter power. This drive level provides an amplifier output of abt 550 watts. I also use an Ameritron ARB-704 as an interface to protect the transceiver.

Hope this helps, enjoy the hobby as I do.

73,

Mike/K3MG

47766. RE: [TS-520_820_530_830] 520s no receive

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-19 04:36:15 UTC
From: fpath fpath
Topic: 47762 Message: 47766

Leonard,

Pull the relay and give the contacts a bit of a clean, I use filter paper and pure ethanol, it cleaned up like new. I did this to a 520 several weeks ago with similar issues. Also I pulled the octal plug from back and cleaned the corroded pins. Once back together it came back to life. A quick alignment and the owner has told me how extremely happy he is. I dont normally touch the 20 series, but this seemed to work

73s

Dave

VK5PDL

From: leonardmiller579@...
To: TS-520_820_530_830@yahoogroups.com
Date: Tue, 18 Feb 2014 11:40:00 -0800
Subject: [TS-520_820_530_830] 520s no receive

Hello, my name is Leonard (WV3P). I have a 520s that has no receive. None of the bands work including wwv. So far here's what I've done. I've cleaned both relays, the VFO, and all the switches. That seemed to fix the marker which I can now hear. I also hear what I consider to be a white noise coming from the speaker. I can turn the volume up & down and that does work, but I can't receive any signals when hooked up to an antenna. Can you guys give me an idea of where to start troubleshooting this radio? I did use another radio to transmit a signal while my son tried to tune it in on the 520s. He said he could hear something on the receive, but no S-meter movement and the signal was very distorted. The transmitting antenna was approximately 50 ft from the 520. I'm not sure if that helps or not. I do have a signal generator, oscilloscope, frequency counter and voltmeter, but I've never done any real troubleshooting. Thanks for any help.

47767. RE: [TS-520_820_530_830] TS-830S ALC glitch

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-19 04:38:04 UTC
From: fpath fpath
Topic: 47760 Message: 47767

I've ordered 5 complete sets, after Terry's review, no point waiting around for the sprockets to slip and cause further issues. Be interested how you go when your done and see if you can get rid of the 40m issue

73s

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: crgrbrts@verizon.net
Date: Tue, 18 Feb 2014 11:59:16 -0800
Subject: [TS-520_820_530_830] TS-830S ALC glitch

Yesterday I finally got around to doing a rough and superficial alignment of my TS-830S using the simplified, no-test-instrument-needed sequence in the radio's user's manual. All went well. Well -- almost all went well until I re-introduced an anomaly that had been apparent before I began the extensive repair and refurbishing that has yielded an 830 that looks and performs as new. Almost.

On the first 50-75 KHz of 40 meters -- and only there -- ALC is glitchy. When in TUNE position, rotating the DRIVE control results in flaky ALC readings -- not a smooth response but rough readings with at least two peaks as if responding to a dirty control. Ultimately, output is normal and, as I said, this "scratchy" ALC metering occurs only on the low end of 40 meters.

One might suspect that the three DRIVE control variable cap sections are out of sync or suffering from uneven rotation caused by those pesky cracked nylon upper sprocket wheels. Yet, when the DRIVE control is rotated through the same arc on other bands, the glitch does not occur.

As I mentioned, we experienced this problem once before. I resolved it by peaking the transmit drive coil at a frequency of about 7.050 MHz rather than the specified 7.150 MHz, but that seems like a cheat. I'd like to get the radio performing "by the book."

Any ideas?

Oh, I have ordered a set of NR6C's reproduction drive control sprocket wheels and anxiously await their arrival. Perhaps Gregory's terrific replacements will somehow cure this unpleasantness. We shall see. I'll let you know.

73,

Craig
W3CRR

47768. RE: TS-530S/830S rubber bulb holder needed

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-19 11:43:11 UTC
From: <wagstw46@...>
Topic: 47717 Message: 47768

Craig

Yes you could set mic gain to 1000 to 1100 and then adjust the NCH level for approx 50 watts output so not likely then to overdrive the rigs mic input. I can measure the NCH output should I buy, but would like to know what reference they are using. I guess I am still on the fence about it versus buying a new arbitrary/function waveform generator (not cheap). I need to investigate other software similar to NCH or perhaps write to them to see if can get some more info.

Thanks
Terry K9TW

47769. RE: 520s no receive

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-19 12:00:07 UTC
From: <wagstw46@...>
Topic: 47762 Message: 47769

What kind of signal generator do you have? Do you know what output level you can set it to? If it is one with just a Low, Medium, High then set it to high and set any variable attenuator to max level and inject RF into the SO-239 connector on rear of rig. Do this on all bands and if S-meter pegs simply turn the level down to get meter back on scale. This is assuming that you know your generator has good output.

I would do this with VFO around 200 and the Drive control at 1200 and RF gain pot full CW.

Pull out the schematic and follow the off air signal path. You say you can hear the Marker since cleaning relays. Look at where Marker signal enters front end. If hearing Marker then you know that path is good. Now study the schematic and ask self how is the Marker path different than Off air signal path and what is in that path that could attenuate the signal? You should see three devices. RX ant switch, RF attenuator, and Xverter switch. This could end up being an easy fix.

Terry K9TW

47770. RE: TS-530S/830S rubber bulb holder needed

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-19 12:17:04 UTC
From: <wagstw46@...>
Topic: 47717 Message: 47770

Craig

I forgot to mention just be aware if you buy the XG-3 to replace your URM-25 that it has no variable output level attenuator. It has 4 switch selectable commonly used output levels. To use it to perform all the alignment steps in KW hybrid service manual you will need to use an external step attenutor with it. Elecraft and Hendricks both sell kits or you can homebrew one. Also to vary the output frequency you need to use your lap top. It does have enough switch positions that you can program in the the commonly used KW hybrid alignment frequencies ie 8.830mhz etc.

I use mine mostly at Hamfest to screen equipment I am interested in buying. Took it to Dayton and drove receivers and O-scopes etc with it. Small size makes it ideal for that.

I am not saying cant use as a bench RF sig gen just realize has limitations and you need to buy the USB cable for it. Lastly the sweep function is not very useful.

For another $50 - $75 can buy a refurbed Wavetek 3001 or 3002 or 1170/U off K8IFF Dennis near Detroit. He does a great job with these.

Terry K9TW

47771. RE: [TS-520_820_530_830] 520s no receive

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-19 04:57:11 UTC
From: <leonardmiller579@...>
Topic: 47762 Message: 47771

Thanks for the reply Dave. I pulled out both relays in the 520s, I cleaned them with deoxit which I sprayed on a small piece of paper that I pulled (carefully) between the contacts. That didn't help. I also sprayed deoxit on the 9 pin plug and pushed it in and out of the socket a couple of times. That did nothing either. I did notice that there seems to be for lack of a better way to put it, a kind of low pitched pulsing sound that comes out of the speaker. It has a very definite rhythm to it. The search goes on.

47772. RE: 520s no receive

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-19 15:10:33 UTC
From: <leonardmiller579@...>
Topic: 47762 Message: 47772

Thanks Terry! I'll give this a try. My signal generator has a low & high setting. I sure hope it's an easy fix. Thank you so much for you guidance. I'll let you know what I find.

47773. RE: TS-830s on e-pay

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-19 16:09:29 UTC
From: <scottandalene@...>
Topic: 47756 Message: 47773

Hi Jose,
It is a fluke of eBay that anyone who lists an amateur transceiver will get it listed in the category of AM and CW even if it is not true like in the case of the three TS-830S units that are for sale. I sold a TS-830S (for parts or repair) a few months ago and I could not get that category corrected, so I had to add an explanation to correct it that it was for CW and SSB and there was no AM capability. Good luck in your search for a quality Kenwood hybrid at a reasonable price. Also check the For Sale listings in QRZ.com. I have a TS-530SP that I plan to keep for a long time.
73s, Scott, N6CIC

47774. RE: 520s no receive

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-19 18:56:29 UTC
From: <wagstw46@...>
Topic: 47762 Message: 47774

I was trying to get you to exercise the X verter switch and Receive antenna switch on the rear panel and the RF attenuator button on the front panel. If that doesnt restore receive then would reach for RF sig gen and start injecting at SO-239 and work your way to the Ant terminal on the RF board or start at the Ant Terminal and work way back to SO-239.

Terry K9TW

47775. Re: [TS-520_820_530_830] RE: TS-530S/830S rubber bulb holder needed

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-19 20:59:22 UTC
From: Craig Roberts
Topic: 47717 Message: 47775

Thanks, Terry. I will check out Dennis' offerings.

Sent from my iPhone

On Feb 19, 2014, at 7:17, <wagstw46@...> wrote:

> Craig
>
>
> I forgot to mention just be aware if you buy the XG-3 to replace your URM-25 that it has no variable output level attenuator. It has 4 switch selectable commonly used output levels. To use it to perform all the alignment steps in KW hybrid service manual you will need to use an external step attenutor with it. Elecraft and Hendricks both sell kits or you can homebrew one. Also to vary the output frequency you need to use your lap top. It does have enough switch positions that you can program in the the commonly used KW hybrid alignment frequencies ie 8.830mhz etc.
>
> I use mine mostly at Hamfest to screen equipment I am interested in buying. Took it to Dayton and drove receivers and O-scopes etc with it. Small size makes it ideal for that.
>
> I am not saying cant use as a bench RF sig gen just realize has limitations and you need to buy the USB cable for it. Lastly the sweep function is not very useful.
>
> For another $50 - $75 can buy a refurbed Wavetek 3001 or 3002 or 1170/U off K8IFF Dennis near Detroit. He does a great job with these.
>
> Terry K9TW
>

47776. Re: [TS-520_820_530_830] RE: TS-530S/830S rubber bulb holder needed

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-20 04:33:56 UTC
From: Ron
Topic: 47717 Message: 47776

Terry and Craig I talked to Dennis about 2 weeks and he is not into the generators but is keeping his eyes out for one for me

Ron KK4PWF

On Feb 19, 2014, at 2:59 PM, Craig Roberts <crgrbrts@...> wrote:

>
>
> Thanks, Terry. I will check out Dennis' offerings.
>
> Sent from my iPhone
>
> On Feb 19, 2014, at 7:17, <wagstw46@...> wrote:
>
>> Craig
>>
>>
>> I forgot to mention just be aware if you buy the XG-3 to replace your URM-25 that it has no variable output level attenuator. It has 4 switch selectable commonly used output levels. To use it to perform all the alignment steps in KW hybrid service manual you will need to use an external step attenutor with it. Elecraft and Hendricks both sell kits or you can homebrew one. Also to vary the output frequency you need to use your lap top. It does have enough switch positions that you can program in the the commonly used KW hybrid alignment frequencies ie 8.830mhz etc.
>>
>> I use mine mostly at Hamfest to screen equipment I am interested in buying. Took it to Dayton and drove receivers and O-scopes etc with it. Small size makes it ideal for that.
>>
>> I am not saying cant use as a bench RF sig gen just realize has limitations and you need to buy the USB cable for it. Lastly the sweep function is not very useful.
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>> For another $50 - $75 can buy a refurbed Wavetek 3001 or 3002 or 1170/U off K8IFF Dennis near Detroit. He does a great job with these.
>>
>> Terry K9TW
>
>
>

47777. Re: [TS-520_820_530_830] RE: TS-530S/830S rubber bulb holder needed

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-20 11:43:53 UTC
From: <wagstw46@...>
Topic: 47717 Message: 47777

You talked to the wrong guy or you are confused about what we are talking about ??

Dennis has been refurbing Wavetek 3002, 3001, and the 1170/U military units for a long time. I know several of our members who have bought one of his units. I bought mine from him. I believe Dick W0NTA also bought from him.

We are talking about replacing Craigs aging classic US military URM-25 RF sig gen with a Wavetek.

Dennis also from time to time has Wavetek Sweepers like the 2002A available. I have seen him advertise them on QRZ dot com and discussed calibration of my 2002A with him.

Terry K9TW

47778. New source rigs and parts

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-20 14:01:41 UTC
From: <r_lazarow@...>
Topic: 47778 Message: 47778

Hi: I found via Facebook a new organization, created and run by a Ham, for buying and selling Ham oriented rigs and accessories. Currently, there are at least two Kenwood hybrids on the site, plus a Kenwood parts listing.

The site is: 73classifieds.com

I have not used this site nor am I associated with them in any way...just looking for an alternative to *bay.

73,

Bob / WA2JAJ

47779. 520se ALC

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-20 14:44:35 UTC
From: <jon_g4fut@...>
Topic: 47779 Message: 47779

First, I don't like this new layout of the forum. But more importantly, one of my hybrids, TS-520, has a problem with the ALC.
If I turn the mike gain to the point whereby I can be hear by other stations, Mike point 3, then then ALC bangs right over to right hand side. Turning the gain down and the ALC vanishes! So I have either massive swinging ALC or nothing at all. I wonder should I change the 2SC1515 (Q10) transistor as well as any resistor and capacitors there. Or does tha problem lie elsewhere? BTW, the rig puts our 100 watts .
Any advice will be most welcome please.
Jon G4FUT

47780. RE: 520se ALC

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-20 15:54:01 UTC
From: <wagstw46@...>
Topic: 47779 Message: 47780

Jon

Are you saying the meter swings full scale hard against the peg or stop (FSD) and not just to the right hand end of the printed black ALC range box?

Does the S-meter function normally in receive mode? Reason I ask is the FET based meter circuit is shared and used as a voltmeter to monitor the AGC bus and the ALC bus and if the meter functions normally in receive mode as an S-meter then not a meter indication problem. Should see approx S9 with Marker on Drive control peaked.

You may be correct that Q10 is bad (leaky). Q10 is configured as a "dynamic zener" diode by tying the Base to the Emitter thru a 10k resistor. The Finals bias voltage is applied thru this 10k resistor to the control grids of the 6146 finals. When the RF drive envelope exceeds this dc bias offset on positive going peak the control grid becomes positive with respect to the cathode and current flows from the cathode to the control grid and back to the -C supply thru this 10k resistor. This current is varying at an audio rate when you speak in the mic. It is very low current on order of 40ua. This "modulation" current is rectified by Q10 and produces approx -1.0 vdc at the Collector. That negative voltage series bucks the + 3.2vdc RF-1 voltage which is your ALC bus or rail voltage. So the normal +3.2 vdc ALC bus voltage now becomes approx +2.0vdc. Your meter FET sees this 1.0vdc drop and drives the meter up scale. It appears that the ALC bus is dropping quite a bit more than 1.0vdc if indicator is banging against the stop.

You can measure or monitor the collector voltage and/or the ALC terminal post on the RF board with a 11 meg VTVM but it will pull it down maybe as much as a volt. I would still do that to see if it is dropping lower than to around 2.0vdc. I suspect it is.

If you replace Q10 suggest you check D9 or replace it while there as it is there to protect the base emitter junction of Q10.

Terry K9TW

Not often that Q10 goes bad and not much else in the circuit. If yo

47781. RE: 520se ALC

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-20 16:05:10 UTC
From: <wagstw46@...>
Topic: 47779 Message: 47781

Sorry had a typo the diode clamp is D17 and not D9. I was thinking TS520.

Terry K9TW

47782. Re: [TS-520_820_530_830] RE: TS-530S/830S rubber bulb holder needed

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-20 17:58:03 UTC
From: Ron
Topic: 47717 Message: 47782

Terry when I spoke to Dennis he said the last sweep generator he sold was to u But like I said he is keeping eyes open .

Ron KK4PWF

On Feb 20, 2014, at 5:43 AM, <wagstw46@...> wrote:

>
>
> You talked to the wrong guy or you are confused about what we are talking about ??
>
> Dennis has been refurbing Wavetek 3002, 3001, and the 1170/U military units for a long time. I know several of our members who have bought one of his units. I bought mine from him. I believe Dick W0NTA also bought from him.
>
> We are talking about replacing Craigs aging classic US military URM-25 RF sig gen with a Wavetek.
>
> Dennis also from time to time has Wavetek Sweepers like the 2002A available. I have seen him advertise them on QRZ dot com and discussed calibration of my 2002A with him.
>
> Terry K9TW
>
>
>

47783. Re: [TS-520_820_530_830] RE: TS-530S/830S rubber bulb holder needed

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-20 18:52:06 UTC
From: Ron
Topic: 47717 Message: 47783

My bad for interjecting what I thought was useful information . Whip me with a wet noodle hihihi!!!

Ron KK4PWF

On Feb 20, 2014, at 11:58 AM, Ron <bozo231@...> wrote:

>
>
> Terry when I spoke to Dennis he said the last sweep generator he sold was to u But like I said he is keeping eyes open .
>
> Ron KK4PWF
>
> On Feb 20, 2014, at 5:43 AM, <wagstw46@yahoo.com> wrote:
>
>> You talked to the wrong guy or you are confused about what we are talking about ??
>>
>> Dennis has been refurbing Wavetek 3002, 3001, and the 1170/U military units for a long time. I know several of our members who have bought one of his units. I bought mine from him. I believe Dick W0NTA also bought from him.
>>
>> We are talking about replacing Craigs aging classic US military URM-25 RF sig gen with a Wavetek.
>>
>> Dennis also from time to time has Wavetek Sweepers like the 2002A available. I have seen him advertise them on QRZ dot com and discussed calibration of my 2002A with him.
>>
>> Terry K9TW
>
>
>

47784. RE: 520se ALC

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-20 20:31:50 UTC
From: <jon_g4fut@...>
Topic: 47779 Message: 47784

Once again, you come to my aid Terry, and for than many thanks.
1. Yes, It goes FSD, especially when I switch on and I do get S9 when in calibration mode, and I have to turn the mike gain right down to notch 2 - 3 to get the meter into the ALC range. But then the audio is too weak to use for transmit.
2. The S meter operates fine on receive and corresponds with the readings of my other Kenwood hybrids.
3. In CW mode the ALC rerading corresponds with maximum power out and with Plate dip.
I'll try to get hold of 2SC1515 or 2SC 1515K (or equivalent) and replace the few components in that ALC circuitry.
Again many thanks
Jon G4FUT.

47785. RE: 520se ALC

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-20 21:50:03 UTC
From: <wagstw46@...>
Topic: 47779 Message: 47785

Jon Hate to replace transistor without testing to confirm it is bad, but very hard to do in circuit especially in this configuration. About best you can do is monitor ALC voltage on the ALC wire wrap post and it is going to confirm that it is dropping lower than approx 2.0vdc from 3.2vdc RF-1 level which you already know as evidenced by meter pegging high. Problem is absent a meter like a HP-410C (100 meg plus input Z) you wont know how much of the drop is due to your meter and now much due to the action of the transistor. I believe with an 11meg meter you should see something close to 2.0vdc with full scale ALC indication on a good rig. Any less than that would indicate to me that the transistor was producing more than approx -1.0vdc at its collector which it should not.

Good sub would be a NTE287. Just make sure you use high voltage transistor as you are dealing with the -C supply here to feed FG. I have purchased 2sc1515 and NTE-287 devices off of Ebay in the past.

Terry K9TW

47786. Re: [TS-520_820_530_830] RE: TS-530S/830S rubber bulb holder needed

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-20 21:57:05 UTC
From: <wagstw46@...>
Topic: 47717 Message: 47786

OK we were not talking about buying sweep generators so that is what confused me when you responded that Dennis doesnt sell the sig gens I had recommended to Craig.

I was telling Craig to check with Dennis for a 3001/3002 series Wavetek RF signal generator before he would buy the Elecraft XG-3 DDS unit. For not much more money he would have a real full functioning PLL based RF sig gen.

Apparently you thought we were talking about sweep generators?

Did you get your Wavetek RF sig gen and if so is it OK? I forget who you bought from?

Terry K9TW

47787. New to the Forum - own a Kenwood TS-820

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-20 20:00:51 UTC
From: <sjkowak@...>
Topic: 47787 Message: 47787

Greetings fellow members,

Just a note to let you know I just joined your group and from what I have seen so far it has a wealth of information about the rigs we own.

I presently have a Amature Extra license that I earned last year. I have always been fascinated by ham radio even when I owned my first CB radio. Anyway, I own several radios to include the Galaxy DX 77 HML, Cobra 2010 GTL CB Base Station, Alinco DX 70 with the Alinco EDX-1 Tuner, and the RCI 2950.

I also own two Kinght Star Roamer Receivers along with a Hallicrafters model S-118 Reciever.

But my pride and joy is the Kenwood TS-820. Working that with the Alinco EDX-1 tuner and a 25" Marine SSB stick I have made quite a few contacts even though I only owned it for a few weeks.

Anyway moving on I would like to provide you with some info that would help keep your Kenwood rigs running a lot better. One of the biggest problems with these rigs is the contacts where the pin connectors are on the boards.

The Kenwood I just purchased was having issues with the meter, the digital display wasn't working at all and on some of the frequencies I couldn't get any TX power.

Well, I purchased a can of CRC QD Electronic Cleaner, removed all the plugs from the boards and squirted them down. I then took a Q-tip with a drop of oil on it and wiped it across all the pins. I did this to all the solid state board connections. Sprayed the potentiometers switches and anything else that I felt could have a corrosion problem.

Well, after doing all this the digital display came on, everything is working as it should and I have full power on all the bands. All my problems went away.

So If you are having problems with your rigs do this as a first step before looking towards replacing components. You'll be surprised as to how this rejuvinates the rig and puts it back into working order.

Oh BTW the QD Electronic cleaner is non-residual and dries almost immediately - when you spray your switches, work the switches back and forth to allow the cleaner to cover all the contact areas.

Regards

SteveKJR
KJ4CAR

47788. RE: 520se ALC

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-21 01:46:40 UTC
From: <wagstw46@...>
Topic: 47779 Message: 47788

Jon

I re-read your response and on No 1 it appears you are saying "ALC" goes full scale when you first turn the rig power switch on. If that is what you are saying it is not ALC you are looking at during powering on the rig. You are looking at the S-meter action. The meter is measuring the AGC bus at this time and not the ALC bus (rail as you would refer to it I believe). In receive mode none of the meter switch positions mean anything. Meter is always monitoring the AGC bus voltage in receive mode regardless of meter position. You can prove that to your self by turning on the Marker and peaking the meter indication and then put meter selector switch in any position and you will see it is functioning as an S-meter.

It is normal to see meter FSD on initial power on unless you keep antenna input grounded or on dummy load or turn AGC off, but grounding the antenna input is the best practice.

Only time you are looking at ALC indication is with the meter switch in the ALC position and the rig keyed or Send switch flipped to Send or mic PTT depressed. Now the panel meter is measuring the voltage on the ALC bus. Now to get ALC indication need Car Pot advanced in Tune or CW or to modulate the rig in SSB mode.

Just wanted to make sure you recognize difference between ALC and AGC. In Rx mode the meter is an S meter and none of the switch positions work. In Tx mode the meter serves whatever function you have selected with the meter select switch.

Terry K9TW

47789. Kenwood TS 530SP Microphone

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-20 23:42:15 UTC
From: <hk5jor@...>
Topic: 47789 Message: 47789

I recently got a Kenwood TS 530SP, this is the first hybrid radio that I have.
I adapt a microphone Electro Voice 638, I solder the 4-pin connector.
Also, I separate the PTT ground cable, according to instructions.
I check all welds and are well, however, I have a loud noise in the audio (humming),
but when I touch with my hand the microphone connector on the radio, the noise decreases considerably.
I wonder if you can give me some advice about how i can solve this problem.
Thank you in advance.
Al

Al, please remember to sign your posts with your name and call - WB7UQU

47790. Re: [TS-520_820_530_830] RE: TS-530S/830S rubber bulb holder needed

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-21 03:51:07 UTC
From: Ron
Topic: 47717 Message: 47790

Yes I did get mine Terry I guess it's doing as its supposed to

Ron KK4PWF

On Feb 20, 2014, at 3:57 PM, <wagstw46@...> wrote:

>
>
> OK we were not talking about buying sweep generators so that is what confused me when you responded that Dennis doesnt sell the sig gens I had recommended to Craig.
>
> I was telling Craig to check with Dennis for a 3001/3002 series Wavetek RF signal generator before he would buy the Elecraft XG-3 DDS unit. For not much more money he would have a real full functioning PLL based RF sig gen.
>
> Apparently you thought we were talking about sweep generators?
>
> Did you get your Wavetek RF sig gen and if so is it OK? I forget who you bought from?
>
> Terry K9TW
>
>
>

47791. ICM crystals arrived today.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-21 06:11:45 UTC
From: Wes Will
Topic: 47791 Message: 47791

Their "month" turn-around time was less than three weeks. They look perfect, of course. Bet they work as good as they look.

Now, the big question. What is the BEST method for getting to the crystals to de-solder the Chicken-Band ones, and replace them with the 10-meter original freq rocks? And the re-alignment will be done at the same time, so I'll be working on this for some time, starting tomorrow. I want to put in the meter and cathode protection mods as well, while I have the lid off. Any other protection or enhancements that anyone would recommend? These two I am going to consider MANDATORY for this and any subsequent Kenwood hybrids I manage to come across. (As if. I was lucky to manage to get THIS one, there won't be more. As much as I would LOVE an 830, I'm going to be happy with my little ol' 520SE, and leave it at that. Coveting would be considered hubris, knowing my karma, and the radio I do have will burn up at next power cycle if i get ungrateful.)

Maybe I should define the terms, considering that Karma business. "Best" right now should be defined in this case as the method LEAST likely to cause MORE problems.

I'd rather disassemble something a little further, or take off an extra piece, if doing it would give me better odds of success.

But from all I have learned so far, "Best" is probably exactly equal to "Least" when it comes to disassembly; the less I pull loose to get at these things, very likely the less risk there is of something else going kaput.

So, my 'best' route to the crystals, gents? Is there a document in the archives? (I'll look tomorrow, though the 'upgraded' web sire search system will probably give me bananas and clams instead of crystal replacement tips.

They're not, apparently, easy to get to in ANY case, so I am more than willing to take instruction here. I've had plenty and enough issues with this box already, so the recommended route, s'il vouz plait??

Merci Beaucoup Mes Amis!

--
Wes Will
N9KDY

47792. RE: 520se ALC

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-21 12:08:34 UTC
From: <jon_g4fut@...>
Topic: 47779 Message: 47792

Thanks again Terry...I've ordered a bunch of 2SC1515Ks just in case I make a mess of the first one., GRIN
Cheers
Join

47793. Re: New to the Forum - own a Kenwood TS-820

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-21 12:08:41 UTC
From: Michael George
Topic: 47787 Message: 47793

STEVE,

WELCOME ABOARD. I KNOW YOU WILL ENJOY THE TOPICS AND MORE SO, THE MEMBERS.

ENJOY THE HOBBY AS I DO,

73,

MIKE/K3MG

47794. RE: Kenwood TS 530SP Microphone

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-21 09:48:56 UTC
From: <hk5jor@...>
Topic: 47789 Message: 47794

Excuse me,

I recently got a Kenwood TS 530SP, this is the first hybrid radio that I have.
I adapt a microphone Electro Voice 638, I solder the 4-pin connector.
Also, I separate the PTT ground cable, according to instructions.
I check all welds and are well, however, I have a loud noise in the audio (humming),
but when I touch with my hand the microphone connector on the radio, the noise decreases
considerably.
I wonder if you can give me some advice about how i can solve this problem.
Thank you in advance.
Alberto Mesa- KK4YIT

47795. Re: [TS-520_820_530_830] RE: Kenwood TS 530SP Microphone

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-21 13:10:36 UTC
From: Mark Gilger
Topic: 47789 Message: 47795

Sounds like you have the shield ground hooked up to pin 1 instead of pin 4, and the hot hooked to pin 4.

When you do your wiring, do not refer to the numbers imbedded in the plastic on the back of the mic plug, as some from China are not correct. It's best to go by the manual picture on page 6 of your manual. The wiring is if you are looking down on the backside, pin side, of the connector.

Mark, WB0IQK

At 04:48 AM 2/21/2014, you wrote:
>
>
>
>Excuse me,
>
>
>
>I recently got a Kenwood TS 530SP, this is the first hybrid radio
>that I have.
>I adapt a microphone Electro Voice 638, I solder the 4-pin connector.
>Also, I separate the PTT ground cable, according to instructions.
>I check all welds and are well, however, I have a loud noise in the
>audio (humming),

47796. Re: [TS-520_820_530_830] RE: Kenwood TS 530SP Microphone

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-21 13:16:27 UTC
From: Ken Winterling
Topic: 47789 Message: 47796

Alberto,

The E-V 638 does not have a PTT switch so I assume you have it mounted on a stand that has a PTT switch. Verify that your wiring is correct:

EV-638 Mic Hi = Kenwood Pin 1
EV-638 Mic Lo (shield) = Kenwood Pin 4

PTT = Kenwood Pin 2
PTT Ground = Kenwood Pin 3

Be careful that you have the plug oriented properly as it is easy to mix up the 1 and 4 pins (and the 2 and 3 pins).

Be sure your mic connections are securely soldered at the mic and the mic connector. Since touching the connector on the radio alters the hum that suggests a poor connection and/or RFI. Also, be sure that neither of the mic lines is touching any metal in stand.

Ken
WA2LBI

On Fri, Feb 21, 2014 at 4:48 AM, <hk5jor@...> wrote:

>
>
>
> Excuse me,
>
>
>
> I recently got a Kenwood TS 530SP, this is the first hybrid radio that I
> have.
> I adapt a microphone Electro Voice 638, I solder the 4-pin connector.
> Also, I separate the PTT ground cable, according to instructions.
> I check all welds and are well, however, I have a loud noise in the audio
> (humming),
> but when I touch with my hand the microphone connector on the radio, the
> noise decreases considerably.
> I wonder if you can give me some advice about how i can solve this problem
> .
> Thank you in advance.
> Alberto Mesa- KK4YIT
>

47797. Re: [TS-520_820_530_830] RE: Kenwood TS 530SP Microphone

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-21 13:20:35 UTC
From: Mike W5RKL
Topic: 47789 Message: 47797

Alberto,

Are you saying the hum is in your transmit signal? If so do you still hear the hum with the microphone disconnected and the SEND switch is used to key the transmitter in USB or LSB mode? If the hum disappears and the microphone wiring, as you said, is correct, check cap C3, .01ufd, between pins 3 and 4 on the microphone socket. Pin 3 is the PTT ground which should be connected to ground but the microphone element's ground lead is fed through C3, the .01ufd cap to ground on the microphone socket, pin 4.

Now I know a Drake T4XB transmitter is not a Kenwood hybrid but I experienced the same hum issue on sideband when I used a Tuner desk microphone. To eliminate the hum I inserted a .01ufd disc cap, just as Kenwood does on the microphone socket, in series with the microphone element's ground wire, problem solved.

73
Mike W5RKL

On 2/21/2014 3:48 AM, hk5jor@... wrote:
>
>
> Excuse me,
>
> I recently got a Kenwood TS 530SP, this is the first hybrid radio that
> I have.
> I adapt a microphone Electro Voice 638, I solder the 4-pin connector.
> Also, I separate the PTT ground cable,according to instructions.
> I check all welds and are well, however, I have a loud noise in the
> audio (humming),
> but when I touch with my hand the microphone connector on the radio,
> the noise decreases considerably.
> I wonder if you can give me some advice about how i can solve this
> problem.
> Thank you in advance.
> Alberto Mesa- KK4YIT
>
>

47798. Fix for Toggle Button

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-21 17:52:13 UTC
From: <ke5ftf@...>
Topic: 47798 Message: 47798

I get quite a few request for the toggle buttons on the 520, 520S, 820 & 820S....
The buttons become loose due to the small keepers cracking & breaking...
Some think they have a bad switch...
Hard to find a take off toggle button that have good keeper tabs....
If you have a loose button then remove, put a small dab of JB-Weld Quick in the small socket, hold in place for a minute or so & Wahaa, just like new... :)
Bob

47799. TS 520s power supply problems

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-21 21:02:30 UTC
From: <kc8pcl@...>
Topic: 47799 Message: 47799

Hello All,
I need to replace D1 thru D4, and D8, D9, D10, and D11. can anyone tell me the value of these diode? I am also replacing C 19 and C 20 if I can find them. I could use some help here. 73 for now.
Dave

47800. Re: [TS-520_820_530_830] TS 520s power supply problems

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-21 21:16:18 UTC
From: Mike W5RKL
Topic: 47799 Message: 47800

Dave,

The diodes in question, D1 thru D4, and D8 thru D11, are silicon diodes that can be replaced with 1N4007 diodes. They are simple silicon rectifier diodes.

You said you were replacing C19 and C20. Did you find those caps to be bad through troubleshooting?

73
Mike W5RKL

On 2/21/2014 3:02 PM, kc8pcl@... wrote:
>
> Hello All,
> I need to replace D1 thru D4, and D8, D9, D10, and D11. can anyone
> tell me the value of these diode? I am also replacing C 19 and C 20 if
> I can find them. I could use some help here. 73 for now.
> Dave
>
>

47801. Re: [TS-520_820_530_830] TS 520s power supply problems

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-21 21:13:31 UTC
From: Timothy Johnston
Topic: 47799 Message: 47801

Which board are you working on.. the part numbers duplicate on each board

Moderator note:

Tim K4TFJ,

You must add an acceptable signature at the end of your messages. Please make sure each message you post on the group has an acceptable signature at the end of your messages.

Mike W5RKL
TS_520_820_530_830 Moderator

Tj Johnston, K4TFJ ==========
Webpage: K4TFJ's Internet QTH http://www.qsl.net/k4tfj/ YouTube Channel: K4TFJ Projects http://www.youtube.com/channel/UCNdqOCz7wlQRwgk76PC_F7w

On Fri, Feb 21, 2014 at 4:02 PM, <kc8pcl@yahoo.com mailto:kc8pcl@yahoo.com> wrote:
Hello All,
I need to replace D1 thru D4, and D8, D9, D10, and D11. can anyone tell me the value of these diode? I am also replacing C 19 and C 20 if I can find them. I could use some help here. 73 for now.
Dave

47802. Re: [TS-520_820_530_830] TS 520s power supply problems

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-21 21:25:23 UTC
From: Mike W5RKL
Topic: 47799 Message: 47802

Tim K4TFJ,

Disregard the Moderator's signature note. Your signature was hidden in
some non-text characters, I didn't see it. Sorry for the confusion.

73
Mike W5RKL

On 2/21/2014 3:13 PM, Timothy Johnston wrote:
> Which board are you working on.. the part numbers duplicate on each board
>
>
> Moderator note:
>
>
> Tim K4TFJ,
>
>
> You must add an acceptable signature at the end of your messages.
> Please make sure each message you post on the group has an acceptable
> signature at the end of your messages.
>
>
> Mike W5RKL
>
> TS_520_820_530_830 Moderator
>
>
>
>
>
>
>
> Tj Johnston, K4TFJ ==
> Webpage: K4TFJ's Internet QTH
> <http://www.qsl.net/k4tfj/>? ?
> YouTube Channel: K4TFJ Projects
> <http://www.youtube.com/channel/UCNdqOCz7wlQRwgk76PC_F7w>
>
>
> On Fri, Feb 21, 2014 at 4:02 PM, <kc8pcl@...
> <mailto:kc8pcl@...>> wrote:
>
> ?
>
> Hello All,

> ? ? ? I need to replace D1 thru D4, and D8, D9, D10, and D11. can
> anyone tell me the value of these diode? I am also replacing C 19
> and C 20 if I can find them. I could use some help here. 73 for now.
> ? Dave
>
>
>
>
>
>

47803. Re: Fix for Toggle Button

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-22 02:59:35 UTC
From: John Krause
Topic: 47798 Message: 47803

Bob's got a solid fix if you're wanting to keep your own handles. If you want to get new replacements for these - either individual black or grey handles, or sets of five - check ebay for "kenwood paddle switches" and you will find these listed. Been selling them for more than a year and a half, many happy customers!

Best regards,

John - KF7QGU

47804. Re: [TS-520_820_530_830] Re: Fix for Toggle Button

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-22 03:08:38 UTC
From: William Houghton
Topic: 47798 Message: 47804

Hi,

"half, many happy customers" ... do you mean half of your customers are happy? - hihi

_____
From: John Krause <jkrause@...>
To: TS-520_820_530_830@yahoogroups.com
Sent: Friday, February 21, 2014 6:59 PM
Subject: [TS-520_820_530_830] Re: Fix for Toggle Button

Bob’s got a solid fix if you’re wanting to keep your own handles. If you want to get new replacements for these – either individual black or grey handles, or sets of five – check ebay for “kenwood paddle switches” and you will find these listed. Been selling them for more than a year and a half, many happy customers!

Best regards,
John – KF7QGU

47805. Re: [TS-520_820_530_830] Re: Fix for Toggle Button

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-22 03:14:00 UTC
From: John Krause
Topic: 47798 Message: 47805

Bill, it's always good to hear from the English majors in the group. Ah, that would be "selling them for over 18 months, with many, many happy customers!"

Still best regards,

John - KF7QGU

47806. Re: [TS-520_820_530_830] Re: Fix for Toggle Button

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-22 03:28:31 UTC
From: William Houghton
Topic: 47798 Message: 47806

John,

I wasn't an English major. I majored in EE. I did beat most of the English majors in an upper division American Literature course I took to meet an upper division general education requirement. The reason has not much to do with me. Its just that as an engineering student you learn early on to focus and how to study in order to survive.

I couldn't resist the temptation to make the comment. Currently the switches in my TS-520 are fine but I'm glad that you have them available in the event I, and others, need them.

73,

Bill, WA6NEQ

From: John Krause <jkrause@...>
To: TS-520_820_530_830@yahoogroups.com
Sent: Friday, February 21, 2014 7:14 PM
Subject: Re: [TS-520_820_530_830] Re: Fix for Toggle Button

Bill, it’s always good to hear from the English majors in the group. Ah, that would be “selling them for over 18 months, with many, many happy customers!”

Still best regards,

John - KF7QGU

47807. Rf Board, ts 530

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-22 04:03:32 UTC
From: <bsa0791@...>
Topic: 47807 Message: 47807

I followed the directions(somewhat) on the WB4HFN site and removed the rf board. When I pulled out the shaft, the ground clip fell on top of the board. I told my self to make a mental note and get the tensioner later. Some point, i flipped the board over and lost the clip. How important is the clip, it is the one in the middle. I know it serves to ground the shaft. Is there an alternative to grounding the shaft?

Also, Im worried that the band wafers will not align correctly when I install the shaft. Is there a danger of that happening?

Thanks brian kb4mng

47808. Re: [TS-520_820_530_830] Rf Board, ts 530

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-22 04:50:01 UTC
From: Joseph Stiles
Topic: 47807 Message: 47808

Brian,

I would not worry too much about the missing item. I would make absolutely sure however, that it is not wedged against, under, or otherwise touching another RF board component. If you feel the need you can us a piece of paperclip...or scrap off the lacquer on one of the YL/XLY's "bobby-pins," they're spring steel

As far as the chance of misalignment of the band switch wafers goes...you betcha...unless you
happened to take pictures or make a drawing or otherwise made marks to keep them "in-sync." I'll be happy to supply you a detailed explanation when you are ready.

73 Joe
WB7UQU

On Friday, February 21, 2014 8:03 PM, "bsa0791@yahoo.com" <bsa0791@...> wrote:

>I followed the directions(somewhat) on the WB4HFN site and removed the rf board. When I pulled out the shaft, the ground clip fell on top of the board. I told my self to make a mental note and get the tensioner later. Some point, i flipped the board over and lost the clip. How important is the clip, it is the one in the middle. I know it serves to ground the shaft. Is there an alternative to grounding the shaft?
>
>Also, Im worried that the band wafers will not align correctly when I install the shaft. Is there a danger of that happening?
>
>Thanks brian kb4mng
>
>
>

47809. Re: [TS-520_820_530_830] TS 520s power supply problems

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-22 05:17:54 UTC
From: Wes Will
Topic: 47799 Message: 47809

On 02/21/2014 03:13 PM, Timothy Johnston wrote:
>
>
> Which board are you working on.. the part numbers duplicate on each board

You know, I'd bet, since the subject line says "520S Power Supply
Poblems" that it's the rectifier (power supply) board.

Just a guess....

If I was a betting man.

(-;

--
Wes Will
N9KDY

47810. Re: [TS-520_820_530_830] RE: Kenwood TS 530SP Microphone

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-22 11:03:35 UTC
From: <hk5jor@...>
Topic: 47789 Message: 47810

Good morning Ms Mike.
Thank you,
The humming is only when I use the microphone (EV-638) only, when I use "send", audio is normal.
Also, I try a different microphone (generic hand mic), and when I use this, I don't have a problems.
I used the hand mic cable in the EV-638, to test whether the problem is in the original EV-638 cable, but still the problem.
However I have other question Sr, my EV-638 use a PTT pedestal, I see inside the PTT mechanism six different connectors, the PTT and Ground PTT are welded to two of them, what about the other connectors?

I'm a little frustrated with this, I find out about this microphone, and I always saw great reviews,though I recognize my poor experience with welding, this is the problem of modern radios, just connect to the power source, connect a antenna and ready to use je!.

Thank you again, have a excellent weekend.

Alberto, KK4YIT

47811. Re: [TS-520_820_530_830] RE: Kenwood TS 530SP Microphone

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-22 11:44:52 UTC
From: Mike W5RKL
Topic: 47789 Message: 47811

Alberto,

It has been a long time since I worked with an EV-638. The last EV-638 I owned was in the late 70s, sold it when I sold my HW-101. I never cared for the flemsey PTT latch. The microphone itself is good but didn't like the PTT latch.

I have not been able to find the PTT switch wiring diagram. Maybe another member has an EV-638 desk microphone that has the PTT switch wiring.

If I remember correctly, the Microphone element connects to the PTT switch at the top of the PTT switch on the side of the microphone stand. The microphone element wiring does not have to go through the PTT switch, you can bypass the element wiring around the switch. You will have to keep the microphone element's shield ground separate from the PTT ground.

73
Mike W5RKL

73
Mike W5RKL

On 2/22/2014 5:03 AM, hk5jor@... wrote:
>
> Good morning Ms Mike.
> Thank you,
> The humming is only when I use the microphone (EV-638) only, when I
> use "send", audio is normal.
> Also, I try a different microphone (generic hand mic), and when I use
> this, I don't have a problems.
> I used the hand mic cable in the EV-638, to test whether the problem
> is in the original EV-638 cable, but still the problem.
> However I have other question Sr, my EV-638 use a PTT pedestal, I see
> inside the PTT mechanism six different connectors, the PTT and Ground
> PTT are welded to two of them, what about the other connectors?
>
> I'm a little frustrated with this, I find out about this microphone,
> and I always saw great reviews,though I recognize my poor experience
> with welding, this is the problem of modern radios, just connect to
> the power source, connect a antennaand ready to use je!.
>
> Thank you again, have a excellent weekend.
>
> Alberto, KK4YIT
>

>

47812. Re: [TS-520_820_530_830] RE: Kenwood TS 530SP Microphone

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-22 12:32:52 UTC
From: Ken Winterling
Topic: 47789 Message: 47812

Alberto (and Mike),

I attached the schematic for the Heathkit HDP-21A mic that uses the E-V 638 head. Since the reflector will strip the attachment I copied it to both of your direct e-mail addresses.

According to the schematic, the original wiring has one side of the mic element grounded to the cable shield. Assuming you have the 3 wire shielded cable shown in the schematic you need to separate the black (PTT ground) wire from the shield. In the PTT switch you also need to remove the grounded side of the mic from terminal 2 of the PTT switch and connect it directly to the shield. The black wire must remain on PTT switch terminal 2 to provide a ground for PTT, the red wire on terminal 3. The clear wire, mic hi, can remain on PTT switch terminal 6. I assume that was done as a convenient tie point as no other part of that SPDT switch is shown to be connected to anything.

On the plug end of the cable you must separate the black wire (PTT ground) from the shield. The black wire connects to plug Pin 3, PTT ground. The shield connects to plug pin 4, mic lo. The clear wire, mic hi, connects to plug pin 1. The red wire, PTT, connects to plug pin 2.

I hope this helps you sort out the wiring and eliminate the hum.

Ken
WA2LBI

On Sat, Feb 22, 2014 at 6:44 AM, Mike W5RKL <w5rkl@...> wrote:

>
>
> Alberto,
>
> It has been a long time since I worked with an EV-638. The last EV-638 I
> owned was in the late 70s, sold it when I sold my HW-101. I never cared for
> the flemsey PTT latch. The microphone itself is good but didn't like the
> PTT latch.
>
> I have not been able to find the PTT switch wiring diagram. Maybe another
> member has an EV-638 desk microphone that has the PTT switch wiring.
>
> If I remember correctly, the Microphone element connects to the PTT switch
> at the top of the PTT switch on the side of the microphone stand. The
> microphone element wiring does not have to go through the PTT switch, you
> can bypass the element wiring around the switch. You will have to keep the
> microphone element's shield ground separate from the PTT ground.
>

> 73
> Mike W5RKL
>
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> 73
> Mike W5RKL
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>
> On 2/22/2014 5:03 AM, hk5jor@... wrote:
>
>
>
> Good morning Ms Mike.
> Thank you,
> The humming is only when I use the microphone (EV-638) only, when I use
> "send", audio is normal.
> Also, I try a different microphone (generic hand mic), and when I use
> this, I don't have a problems.
> I used the hand mic cable in the EV-638, to test whether the problem is in the
> original EV-638 cable, but still the problem.
> However I have other question Sr, my EV-638 use a PTT pedestal, I see
> inside the PTT mechanism six different connectors, the PTT and Ground PTT
> are welded to two of them, what about the other connectors?
>
> I'm a little frustrated with this, I find out about this microphone, and I always
> saw great reviews,though I recognize my poor experience with welding, this
> is the problem of modern radios, just connect to the power source, connect
> a antenna and ready to use je!.
>
> Thank you again, have a excellent weekend.
>
> Alberto, KK4YIT
>
>
>
>

[Non-text portions of this message have been removed]

47813. RE: Kenwood TS 530SP Microphone

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-22 11:30:00 UTC
From: <hk5jor@...>
Topic: 47789 Message: 47813

Thank you Mark.
I followed the instructions on the order of the pins, according to the manual, and I tried to do a good job of welding, but the problem remains.

I'll keep looking for a solution, thanks for your help.

Alberto KK4YIT

47814. RE: Kenwood TS 530SP Microphone

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-22 11:45:44 UTC
From: <hk5jor@...>
Topic: 47789 Message: 47814

Thank you Mr Ken.
I have closely followed all the instructions, I have tried to do the best job of welding, I also use another cable from a different microphone, but the problem remains.

I wonder if you can help me with the following: what about the connectors in the mechanism of PTT, now cable PTT and PTT ground use two of them, what happens to the other connectors?.

I'm trying to disassemble the portion of cable between the microphone and the PTT box, trying to find something wrong,
Thank you again for you valuable help.
Alberto KK4YIT

47815. Re: [TS-520_820_530_830] RE: Kenwood TS 530SP Microphone

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-22 14:59:46 UTC
From: W5RKL
Topic: 47789 Message: 47815

Hi Ken,

The schematic attachment didn't make it.

If you would please, send the attachment to my private email so I can study the switch, it's been, as I said, a long time since I messed with an EV-638.

Your discussion is exactly what I said Alberto would have to do, separate the Microphone ground from the PTT ground. the normal PTT ground is connected directly to the KW chassis but the microphone ground is held above ground by a .01ufd disc cap. Alberto the only way you can eliminate the hum when using the EV-638 microphone is to separate the microphone element ground and connect it to pin 4 on the microphone socket. The PTT ground, a separate ground by itself, is connected directly to pin 3. That should eliminate the hum. The .01ufd disc cap connected between pins 3 and 4 on the microphone socket and the PTT ground and microphone element grounds are kept separate, allows the microphone ground to have an "AC" ground while at the same time keeping the microphone element ground above "DC ground". You have to separate the Microphone element ground AND the PTT ground into 2 separate wires. The microphone element ground is fed directly to pin 4, does NOT connect to the PTT ground. You will need 4 wire microphone cable to achieve this connection.

73
Mike W5RKL

On 2/22/2014 6:32 AM, Ken Winterling wrote:
>
> Alberto (and Mike),
>
> I attached the schematic for the Heathkit HDP-21A mic that uses the
> E-V 638
> head. Since the reflector will strip the attachment I copied it to both of
> your direct e-mail addresses.
>
> According to the schematic, the original wiring has one side of the mic
> element grounded to the cable shield. Assuming you have the 3 wire
> shielded
> cable shown in the schematic you need to separate the black (PTT ground)
> wire from the shield. In the PTT switch you also need to remove the
> grounded side of the mic from terminal 2 of the PTT switch and connect it
> directly to the shield. The black wire must remain on PTT switch terminal
> 2 to provide a ground for PTT, the red wire on terminal 3. The clear wire,
> mic hi, can remain on PTT switch terminal 6. I assume that was done as a

> convenient tie point as no other part of that SPDT switch is shown to be
> connected to anything.
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> On the plug end of the cable you must separate the black wire (PTT ground)
> from the shield. The black wire connects to plug Pin 3, PTT ground. The
> shield connects to plug pin 4, mic lo. The clear wire, mic hi, connects to
> plug pin 1. The red wire, PTT, connects to plug pin 2.
>
> I hope this helps you sort out the wiring and eliminate the hum.
>
> Ken
> WA2LBI
>
> On Sat, Feb 22, 2014 at 6:44 AM, Mike W5RKL <w5rkl@...> wrote:
>
> >
> >
> > Alberto,
> >
> > It has been a long time since I worked with an EV-638. The last EV-638 I
> > owned was in the late 70s, sold it when I sold my HW-101. I never
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> > PTT latch.
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> > I have not been able to find the PTT switch wiring diagram. Maybe
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> > member has an EV-638 desk microphone that has the PTT switch wiring.
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> > microphone element wiring does not have to go through the PTT
> switch, you
> > can bypass the element wiring around the switch. You will have to
> keep the
> > microphone element's shield ground separate from the PTT ground.
> >
> > 73
> > Mike W5RKL
> >
> >
> >
> >
> > 73
> > Mike W5RKL
> >
> >
> > On 2/22/2014 5:03 AM, hk5jor@... wrote:
> >

> >
> >
> > Good morning Ms Mike.
> > Thank you,
> > The humming is only when I use the microphone (EV-638) only, when I use
> > "send", audio is normal.
> > Also, I try a different microphone (generic hand mic), and when I use
> > this, I don't have a problems.
> > I used the hand mic cable in the EV-638, to test whether the problem
> is in the
> > original EV-638 cable, but still the problem.
> > However I have other question Sr, my EV-638 use a PTT pedestal, I see
> > inside the PTT mechanism six different connectors, the PTT and
> Ground PTT
> > are welded to two of them, what about the other connectors?
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> > I'm a little frustrated with this, I find out about this microphone,
> and I always
> > saw great reviews,though I recognize my poor experience with
> welding, this
> > is the problem of modern radios, just connect to the power source,
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> > a antenna and ready to use je!.
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> > Thank you again, have a excellent weekend.
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> > Alberto, KK4YIT
> >
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This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

47816. Re: [TS-520_820_530_830] Kenwood TS 530SP Microphone

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-22 15:17:07 UTC
From: Ken Winterling
Topic: 47789 Message: 47816

Alberto,

The goal is to wire the microphone element so that one side is connected (soldered) directly to a wire that goes to pin 1 of the microphone plug and the other side of the microphone element is connected to the shield and then to pin 7 of the microphone plug. There should not be any switch in the mic line and neither side should connected to frame (PTT) ground. Two other wires are required for frame/PTT ground and PTT. No other wires are needed. The wire colors you use for any of the connections will depend on the particular cable chosen so it is difficult to reference color codes unless you provide details on the specific cable.

I have never owned the mic you have and do not have any personal experience with it so I can't help with the disassembly. If you have an ohm meter you can use it to verify your wiring. You want to ensure that neither side of the mic element is connected to ground or any other wire.

Keep the list posted on your progress or your findings and we will continue to assist.

On Saturday, February 22, 2014, <hk5jor@...> wrote:

>
>
> Thank you Mr Ken.
> I have closely followed all the instructions, I have tried to do the best
> job of welding, I also use another cable from a different microphone, but
> the problem remains.
>
> I wonder if you can help me with the following: what about the connectors in
> the mechanism of PTT, now cable PTT and PTT ground use two of them, what
> happens to the other connectors?.
>
> I'm trying to disassemble the portion of cable between the microphone and
> the PTT box, trying to find something wrong,
> Thank you again for you valuable help.
> Alberto KK4YIT
>
>

--

Ken
WA2LBI
Sent from IPad Gmail Mobile

47817. Re: [TS-520_820_530_830] RE: Kenwood TS 530SP Microphone

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-22 15:00:43 UTC
From: alberto mesa
Topic: 47789 Message: 47817

Thank you very much for your help, I don't want bother with this topic a long time, excuse me.
Now your information give me more sense, however I am confuse with the terminal order in the PTT switch,
for this reason I am attaching a few pictures about how the PTT switch look in my mic.
The clear cable connect in a terminal PTT switch, with the mic cable (coming from the head mic)
The shield mic cable is the cable with a black tape around and bypass the PTT switch. (I need to join these cable and I use a piece of the internal part of a coaxial cable).
The red cable join in the PTT switch. (I dont know what connector number)
The black cable join in the PTT switch. (I dont know waht connector number)

Connector:
Clear Cable PIN 1
Red Cable PIN 2
Black Cable (PTT Ground) PIN 3
Shield (MIC Ground) PIN 4

Thanks again.

Alberto -KK4YIT-

hk5jor@...

On Saturday, February 22, 2014 7:33 AM, Ken Winterling <wa2lbi@...> wrote:

Alberto (and Mike),

I attached the schematic for the Heathkit HDP-21A mic that uses the E-V 638 head. Since the reflector will strip the attachment I copied it to both of your direct e-mail addresses.

According to the schematic, the original wiring has one side of the mic element grounded to the cable shield. Assuming you have the 3 wire shielded cable shown in the schematic you need to separate the black (PTT ground) wire from the shield. In the PTT switch you also need to remove the grounded side of the mic from terminal 2 of the PTT switch and connect it directly to the shield. The black wire must remain on PTT switch terminal 2 to provide a ground for PTT, the red wire on terminal 3. The clear wire, mic hi, can remain on PTT switch terminal 6. I assume that was done as a convenient tie point as no other part of that SPDT switch is shown to be connected to anything.

On the plug end of the cable you must separate the black wire (PTT ground) from the shield. The black wire connects to plug Pin 3, PTT ground. The shield connects to plug pin 4, mic lo. The clear wire, mic hi, connects to plug pin 1. The red wire, PTT, connects to plug pin 2.

I hope this helps you sort out the wiring and eliminate the hum.

Ken
WA2LBI

On Sat, Feb 22, 2014 at 6:44 AM, Mike W5RKL <w5rkl@...> wrote:

>
>
> Alberto,
>
> It has been a long time since I worked with an EV-638. The last EV-638 I
> owned was in the late 70s, sold it when I sold my HW-101. I never cared for
> the flemsey PTT latch. The microphone itself is good but didn't like the
> PTT latch.
>
> I have not been able to find the PTT switch wiring diagram. Maybe another
> member has an EV-638 desk microphone that has the PTT switch wiring.
>
> If I remember correctly, the Microphone element connects to the PTT switch
> at the top of the PTT switch on the side of the microphone stand. The
> microphone element wiring does not have to go through the PTT switch, you
> can bypass the element wiring around the switch. You will have to keep the
> microphone element's shield ground separate from the PTT ground.
>
> 73
> Mike W5RKL
>
>
>
>
> 73
> Mike W5RKL
>
>
> On 2/22/2014 5:03 AM, hk5jor@... wrote:
>
>
>
> Good morning Ms Mike.
> Thank you,
> The humming is only when I use the microphone (EV-638) only, when I use
> "send", audio is normal.
> Also, I try a different microphone (generic hand mic), and when I use
> this, I don't have a problems.
> I used the hand mic cable in the EV-638, to test whether the problem is in the
> original EV-638 cable, but still the problem.
> However I have other question Sr, my EV-638 use a PTT pedestal, I see
> inside the PTT mechanism six different connectors, the PTT and Ground PTT
> are welded to two of them, what about the other connectors?
>
> I'm a little frustrated with this, I find out about this microphone, and I always

> saw great reviews,though I recognize my poor experience with welding, this
> is the problem of modern radios, just connect to the power source, connect
> a antenna and ready to use je!.
>
> Thank you again, have a excellent weekend.
>
> Alberto, KK4YIT
>
>
>
>

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47818. Introduction and a question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-22 18:09:58 UTC
From: Joe Reed
Topic: 47818 Message: 47818

Allow me to introduce myself, my name is Joe N9JR and I recently acquired a new to me TS-530S. Not my first hybrid, back in the late 70s I had a 520S that I used to run mobile in a Ford Fiesta. Needless to say back in the day if you rode with me you rode in the back seat.

And ~20 years ago I had a 530S, but sold it. Over the years I missed the genre, but DXing took priority. Recently the yearning for a radio of the era led me to pick up this 530S. It has the narrow SSB and CW filters, seems to be solid electrically, and is awesome looking. Lucky me!

After buying it I was researching parts, options and so on. It is almost 33 years old, and some sites on the Internet say replace the electrolytics. I know there is also a school of thought that says if it isn't broken don't fix it. After lurking on this group for a month I realize there is a tremendous body of knowledge and I'd like to avail myself of the collective expertise. Should I replace them all, just the HV caps or just use it.

Thanks in advance,
Joe N9JR

Sent from my iPad

47819. Re: [TS-520_820_530_830] Introduction and a question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-22 19:31:54 UTC
From: Joseph Stiles
Topic: 47818 Message: 47819

Welcome aboard Joe,

Running mobile 520 on a Ford Fiesta??? Never thought the electrical system had that much power! hihi

As you have figured, there are different schools of thought regarding replacement of electrolytics in these "older" rigs. I'll open a big can of worms on an already heavily discussed
subject...but...I would replace the HV caps. Failure of one or, both...will make life very bad
for you and the rig. The HV cap replacement kits..are available through numerous sources: hybridrestore.com, Ken Kemski-k4eaa(google him), and several EBAY sources, or order yourself from your choice of electronic parts providers.

Good luck and welcome aboard. Thank you for properly identifying yourself.

73 Joe
WB7UQU
Group Co-owner

On Saturday, February 22, 2014 11:17 AM, Joe Reed <joe@...m> wrote:

>Allow me to introduce myself, my name is Joe N9JR and I recently acquired a new to me TS-530S. Not my first hybrid, back in the late 70s I had a 520S that I used to run mobile in a Ford Fiesta. Needless to say back in the day if you rode with me you rode in the back seat.
>
>And ~20 years ago I had a 530S, but sold it. Over the years I missed the genre, but DXing took priority. Recently the yearning for a radio of the era led me to pick up this 530S. It has the narrow SSB and CW filters, seems to be solid electrically, and is awesome looking. Lucky me!
>
>After buying it I was researching parts, options and so on. It is almost 33 years old, and some sites on the Internet say replace the electrolytics. I know there is also a school of thought that says if it isn't broken don't fix it. After lurking on this group for a month I realize there is a tremendous body of knowledge and I'd like to avail myself of the collective expertise. Should I replace them all, just the HV caps or just use it.
>
>Thanks in advance,
>Joe N9JR
>
>Sent from my iPad
>
>
>
>

47820. Re: [TS-520_820_530_830] RE: TS520S Loss of Rx

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-22 20:20:25 UTC
From: <pyrrus2003@...>
Topic: 47680 Message: 47820

Terry:

It has taken me a while - press of work among other things, but I have gotten back to the deaf 520S. I have injected a 1 microvolt signal and a 50 microvolt signal at RFG, and I can hear very little difference in volume, and the S-meter does not deflect with either signal. I have a good ANT Coil board from Bob Mansker, but before I .tore the radio apart to install it, I wanted to make sure that L1 is the problem.

I replaced Q3 (3SK35 (GR) FET) with an NTE454 (N-Channel dual gate MOSFET) and receive came back to life. I suppose what I blew was Q3, and as soon as I can get the proper semiconductor, either a 3SK35(GR) or the NTE replacement, an NTE222, I will put that in.

Now, what is the difference between the NTE222 and the NTE545, if any, and should I replace the 454 with the 222, or should I just leave well enough alone?

John Boardman
KD5ZGX

47821. Re: [TS-520_820_530_830] RE: TS520S Loss of Rx

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-22 21:11:34 UTC
From: <wagstw46@...>
Topic: 47680 Message: 47821

John:

Well that was whole purpose of injecting at RFG. If rig had come alive would have told you Q3 RF amp was good and L1 was the likely culprit. When that didnt occur then next step would be to measure Q3 D-S-G1-G2 dc voltages.

You can use either the NTE454 or NTE222. The NTE454 is a high frequency device. It has about same gain and about the same input and output capacitance but a lower noise figure. It is however much more expensive and not required for this application unless only thing you can find.

Also can use a 40673 or 3N211. I have bought and used the NOS 40673 devices from Scotts Electronic Parts who sells parts for crystal radios and has some NOS mosfets at good prices.

Terry K9TW

47822. Re: [TS-520_820_530_830] RE: TS520S Loss of Rx

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-22 21:28:47 UTC
From: John Boardman
Topic: 47680 Message: 47822

Thank you for your help, terry. Between this little exercise, and reading the travails and tribulations of others asking for your help, I have gotten a better working knowledge of the radio. Following your instructions, and studying the block diagrams is a great help in understanding the circuit performance. I appreciate your patient help and guidance, both for me and for the others, for I have learned a lot following what they have done, and what results they achieved.

John Boardman
KD5ZGX

On Saturday, February 22, 2014 3:11 PM, "wagstw46@..." <wagstw46@...> wrote:

John:

Well that was whole purpose of injecting at RFG. If rig had come alive would have told you Q3 RF amp was good and L1 was the likely culprit. When that didnt occur then next step would be to measure Q3 D-S-G1-G2 dc voltages.

You can use either the NTE454 or NTE222. The NTE454 is a high frequency device. It has about same gain and about the same input and output capacitance but a lower noise figure. It is however much more expensive and not required for this application unless only thing you can find.

Also can use a 40673 or 3N211. I have bought and used the NOS 40673 devices from Scotts Electronic Parts who sells parts for crystal radios and has some NOS mosfets at good prices.

Terry K9TW

47823. Re: [TS-520_820_530_830] RE: TS520S Loss of Rx

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-22 21:45:56 UTC
From: <wagstw46@...>
Topic: 47680 Message: 47823

John:

It would have been nice if Kenwood would have put a little more meat on the bones as far as circuit descriptions go in their documentation, but it is what it is and better than many mfgs. Heathkit was among the best years ago. Studying what KW does provide along with the block diagram and schematics will serve you well with time.

Just keep up your thirst for knowledge and use these kind of operational problems as a way to learn. Nothing wrong with asking here, but in parallel with that I most appreciate helping those willing to expend some energy and help themselves by cracking the manuals. Easy to just give the answer, but very little learning occurs.

Have fun.

73s
Terry K9TW

47824. Re: [TS-520_820_530_830] Introduction and a question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-22 22:56:09 UTC
From: James Scribner
Topic: 47818 Message: 47824

Joe
WB7UQU
I had about the same mobile, '75 Pinto S.W. with Ts-820 in front seat. Not a problem! Of course passenger arrangement was same. backseat!:>D

73
Jim W5SWM

47825. Re: [TS-520_820_530_830] Rf Board, ts 530

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-23 00:16:56 UTC
From: <bsa0791@...>
Topic: 47807 Message: 47825

Joe,

Thanks for the reply. Good to know the little wire will not make much difference. I really like to keep things original when I can.

I have wb4hfn article on the wafer fix. I have removed 3 so far and it has gone well. Just hope it all goes back together ok!!
Should I remove the switch at the end of the shaft in the final cage?

I hope to have it aligned properly. The article states the indention on the plastic center must go to the 9 position. I also made sure it was on 10 mhz when I removed the shaft.

Brian n nc kb4mng

47826. Re: [TS-520_820_530_830] Rf Board, ts 530

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-23 05:01:37 UTC
From: Joseph Stiles
Topic: 47807 Message: 47826

Brian,

Why would you want to remove the switch? Is it somehow malfunctioning or otherwise broken? If none of the above, there's no reason. It's more work than you would care to get into. The contacts can be cleaned in-place. Just use a good quality cleaner/lube and blow off with canned air...aka "air duster." I can not stress enough about making sure that the band switch wafers..etc are properly aligned. Now may also be a good time to replace the band switch shaft coupler...if not done already.

73 Joe
WB7UQU

On Saturday, February 22, 2014 4:17 PM, "bsa0791@..." <bsa0791@...> wrote:

>Joe,
>
>Thanks for the reply. Good to know the little wire will not make much difference. I really like to keep things original when I can.
>
>I have wb4hfn article on the wafer fix. I have removed 3 so far and it has gone well. Just hope it all goes back together ok!!
>Should I remove the switch at the end of the shaft in the final cage?
>
>I hope to have it aligned properly. The article states the indention on the plastic center must go to the 9 position. I also made sure it was on 10 mhz when I removed the shaft.
>
>Brian n nc kb4mng
>
>
>

47827. Checked archives, no help. Explicit instructions please, disassemble to replace crystals?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-23 07:31:23 UTC
From: Wes Will
Topic: 47807 Message: 47827

The yahooligan-run web site has no information in it that I can find about proper disassembly procedures for the bandswitch. Other posts have touched often on the "keep everything so you get it all back lined up correctly" and I think I have that covered with a marker and LOTS of pictures.

But the precise steps needed to safely remove the band switch shaft, JUST ENOUGH to get to the sub-board which has the HET/OSC crystals on it are nowhere to be found. I've checked the archives of messages as best the stupid yahooligan web site will allow. It comes up with a lot of GARBAGE, most of which has NONE of the search terms on it.

I have most of a years'-worth of messages in MY OWN archive, and searching those gets me those line-up warnings. (Didn't really need those, since that is beyond "obvious. I have more than three functioning neurons, thanks.)

I will go it by guess and by golly, using what appears to be the least damaging way to get this thing apart, if nobody can point me to better instructions.

It has been done at least once by someone who apparently DOESN'T have more than three functioning brain cells, when they put these stupid chicken-band crystals in here in the first place. If they can do it, I can as well, I am certain.

But I'm also savvy enough not to do it the hard way (without advice) if I can help it. This is me, asking for that advice. Any pointers here would be appreciated.

I will be applying the mods to protect the finals (grid current loss) and the meter (over-voltage) while I have it open, too. Any others recommended? Anything that will make this thing more bullet-proof?

I'm interested in getting this repair done, ONCE, then realigning everything and NEVER opening the box again if I can manage to avoid it. Spent too much time with the covers off as it is.

--
Wes Will
N9KDY

47828. RE: [TS-520_820_530_830] Introduction and a question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-23 10:05:54 UTC
From: fpath fpath
Topic: 47818 Message: 47828

Joe,

I would do the HV caps including oon the IF board and for me I'd replace the relay at the same time. Have a look in the final unit to see if the small green choke and RF cap needs replacing. The cap usually cracks from heat from the valve.. Make sure you give the PA a good blast of air and remove any dust build up, give the fan a small amount of lube whislt your there. Remeber to discharge the HV before sticking your fingers in the radio.

These are the minimum things that I change when refurbishing the 530 or 830s Ken, K4EAA has all the parts you would need, he has real fast deliver too.

Regards,

Dave

VK5PDL

VK5PDL

From: joe@...
To: TS-520_820_530_830@yahoogroups.com
Date: Sat, 22 Feb 2014 18:09:58 +0000
Subject: [TS-520_820_530_830] Introduction and a question

Allow me to introduce myself, my name is Joe N9JR and I recently acquired a new to me TS-530S. Not my first hybrid, back in the late 70s I had a 520S that I used to run mobile in a Ford Fiesta. Needless to say back in the day if you rode with me you rode in the back seat.

And ~20 years ago I had a 530S, but sold it. Over the years I missed the genre, but DXing took priority. Recently the yearning for a radio of the era led me to pick up this 530S. It has the narrow SSB and CW filters, seems to be solid electrically, and is awesome looking. Lucky me!

After buying it I was researching parts, options and so on. It is almost 33 years old, and some sites on the Internet say replace the electrolytics. I know there is also a school of thought that says if it isn't broken don't fix it. After lurking on this group for a month I realize there is a tremendous body of knowledge and I'd like to avail myself of the collective expertise. Should I replace them all, just the HV caps or just use it.

Thanks in advance,
Joe N9JR

Sent from my iPad

47829. Looking for a DG1 Readout

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-23 14:42:55 UTC
From: <kevin_lemon@...>
Topic: 47829 Message: 47829

Hello All

I am trying to help a friend out with his TS-820S, it needs the optional digital readout, he is sight impaired and can no longer see the analog dials.
Does anyone have a working unit for sale.
I might also consider a repairable one if a working one is not available.

Thanks
Kevin VE3RRH

47830. WARC bands

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-23 14:23:21 UTC
From: timothy mcmillin
Topic: 47830 Message: 47830

Good morning all,
Since my TS830S was produced prior to WARC band approvals, I will need to remove the diodes that currently prevent transmitting on those bands. Since I am old enough to come from the breadboard era, are there any tips I should know in locating and removing diodes D4,D5, and D6 before in invade my virgin 830.
Many thanks,
Tim, WA3GPU

47831. RE: Serial number and purchase date in the Group Database

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-23 15:53:00 UTC
From: <jweigh@...>
Topic: 47644 Message: 47831

Mark, I am have a TS-830S and the original owner wrote the purchase info on the instruction manual.
The info is: Purchased from Ham Radio Outlet in Van Nuys CA. on 1-29-81. The Serial No. is 1050661.
Keep up the list it will become a very useful resource. Where can we view the list?
Jerry K4GEW

47832. Secondary plate dial removal

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-23 19:42:55 UTC
From: <bsa0791@...>
Topic: 47832 Message: 47832

The plate knob on the TS 530, how do you get the second, clear plastic knob off? I would like to remove the face plate. Thanks Brian KB4MNG

47833. Re: [TS-520_820_530_830] WARC bands

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-23 19:50:06 UTC
From: Joseph Stiles
Topic: 47830 Message: 47833

Tim,

There is no overt reason to remove the diodes to enable the WARC bands. You can very simply cut one wire. Take a look at Pg 28 Section 6.5 of the 830S instruction manual. It describes a very simple procedure to enable the WARC bands. I recommend it..vs cutting the diodes. Make sure that you leave a bit of length on either end of your cut. Put some electrical
tape on either end..and tuck it away. Also, after cutting the wire in question...I suggest that you do a "basic" RF deck alignment...as stated in the manual.

73 Joe
WB7UQU

On Sunday, February 23, 2014 11:42 AM, timothy mcmillin <mcmillint@...> wrote:

>Good morning all,
>Since my TS830S was produced prior to WARC band approvals, I will need to remove the diodes that currently prevent transmitting on those bands. Since I am old enough to come from the breadboard era, are there any tips I should know in locating and removing diodes D4,D5, and D6 before in invade my virgin 830.
>Many thanks,
>Tim, WA3GPU
>
>
>
>

47834. Re: [TS-520_820_530_830] Secondary plate dial removal

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-23 19:57:34 UTC
From: Joseph Stiles
Topic: 47832 Message: 47834

Brian,

Both are friction fit. The clear plastic "pointer" has two tangs that fit into slots of the shaft. With GENTLE force you can use a couple of soft tools..or if you're lucky..some longish fingernails...on either side and rock and pull towards you...GENTLY! Remember...that this part
has probably been there for 20+ years without being removed! You may also use some very light oil...to help remove the part.

73 Joe
WB7UQU

On Sunday, February 23, 2014 11:43 AM, "bsa0791@..." <bsa0791@...> wrote:

>The plate knob on the TS 530, how do you get the second, clear plastic knob off? I would like to remove the face plate. Thanks Brian KB4MNG
>
>
>

47835. TS-520S mic / Carrer, pull for processer control

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-23 20:11:22 UTC
From: <n9qds@...>
Topic: 47835 Message: 47835

Looking for one it has two 10K pots and a DPDT switch on the back end of it. will pay fair price and shipping for it

Thanks Keith N9QDS
847-707-6574
n9qds@arrl.net

47836. Re: [TS-520_820_530_830] TS-520S mic / Carrer, pull for processer control

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-23 20:17:36 UTC
From: Joseph Stiles
Topic: 47835 Message: 47836

Keith,

Bob Mansker-ke5ftf has many good used "pulls." He may see this question or, you can contact him off-list at: ke5ftf "at" mail dot com

73 Joe
WB7UQU

On Sunday, February 23, 2014 12:15 PM, "n9qds@..." <n9qds@...> wrote:

>Looking for one it has two 10K pots and a DPDT switch on the back end of it. will pay fair price and shipping for it
>
>Thanks Keith N9QDS
>847-707-6574
>n9qds@arrl.net
>
>
>
>

47837. Re: [TS-520_820_530_830] RE: Serial number and purchase date in the Group Database

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-23 20:38:49 UTC
From: Chris Robinson
Topic: 47644 Message: 47837

I must have mised the purpose of the list, so please forgive my questions! What are you gathering the sn for and is this for the original purchase only, or is this a project to see what rigs are still in operation and by who as a result the rig could be tracked through years of hands if it traveled.

ok so now that I may have just confused myself, maybe someone can answer the questions!

On Sun, Feb 23, 2014 at 7:53 AM, <jweigh@...> wrote:

>
>
> Mark, I am have a TS-830S and the original owner wrote the purchase info
> on the instruction manual.
> The info is: Purchased from Ham Radio Outlet in Van Nuys CA. on 1-29-81.
> The Serial No. is 1050661.
> Keep up the list it will become a very useful resource. Where can we view
> the list?
> Jerry K4GEW
>
>

--
Making life hell for others since 1973

Mr.C.Robinson
73 DE KF6NFW

47838. Re: [TS-520_820_530_830] RE: Serial number and purchase date in the Group Database

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-23 21:01:17 UTC
From: Joseph Stiles
Topic: 47644 Message: 47838

Mr. C. Robinson,

It has always been a question when certain models of the KW hybrids were manufactured/sold or, otherwise put in service, Many of us, myself included purchased used rigs. Mine was an TS820S from an SK back in circa 1982-83 The original purchase document..has now been lost to history...so when was it manufactured? Kenwood has not been overtly helpful in tracking or
documenting when a model comes out and with what beginning serial number...we can make assumptions.

73 Joe
WB7UQU

On Sunday, February 23, 2014 12:39 PM, Chris Robinson <kf6nfw@...> wrote:

>I must have mised the purpose of the list, so please forgive my questions! What are you gathering the sn for and is this for the original purchase only, or is this a project to see what rigs are still in operation and by who as a result the rig could be tracked through years of hands if it traveled.
>
> ok so now that I may have just confused myself, maybe someone can answer the questions!
>
>
>
>On Sun, Feb 23, 2014 at 7:53 AM, <jweigh@...> wrote:
>
>
>>
>>Mark, I am have a TS-830S and the original owner wrote the purchase info on the instruction manual.
>>The info is: Purchased from Ham Radio Outlet in Van Nuys CA. on 1-29-81. The Serial No. is 1050661.
>>Keep up the list it will become a very useful resource. Where can we view the list?
>>Jerry K4GEW
>
>
>
>--
>
>Making life hell for others since 1973
>
>Mr.C.Robinson
> 73 DE KF6NFW
>
>

>

47839. Re: [TS-520_820_530_830] WARC bands

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-23 21:41:46 UTC
From: Tim Mcmillin
Topic: 47830 Message: 47839

Thanks Joe
. I assume when i remove the top and examine the RF unit that the referenced connector and pin #s will be clearly identifiable and that one clip of the wire should do it without worring about the AF connection point.
Tape and tuck at that point.
Also, i dont see a specific reference to the "RF deck alignment" in the manual.
Did i miss it?
Thanks for your help
Tim, Wa3GPU

Sent from my iPhone

On Feb 23, 2014, at 2:50 PM, Joseph Stiles <stilesjoseph@...> wrote:

> Tim,
>
> There is no overt reason to remove the diodes to enable the WARC bands. You can very simply cut one wire. Take a look at Pg 28 Section 6.5 of the 830S instruction manual. It describes a very simple procedure to enable the WARC bands. I recommend it..vs cutting the
> diodes. Make sure that you leave a bit of length on either end of your cut. Put some electrical
> tape on either end..and tuck it away. Also, after cutting the wire in question...I suggest that you do a "basic" RF deck alignment...as stated in the manual.
>
>
> 73 Joe
> WB7UQU
>
>
> On Sunday, February 23, 2014 11:42 AM, timothy mcmillin <mcmillint@...> wrote:
>
> Good morning all,
> Since my TS830S was produced prior to WARC band approvals, I will need to remove the diodes that currently prevent transmitting on those bands. Since I am old enough to come from the breadboard era, are there any tips I should know in locating and removing diodes D4,D5, and D6 before in invade my virgin 830.
> Many thanks,
> Tim, WA3GPU
>
>
>

47840. Re: [TS-520_820_530_830] WARC bands

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-24 00:01:11 UTC
From: Joseph Stiles
Topic: 47830 Message: 47840

Tim,

The connector that has the wire that needs to be cut is best accessed from the underside of the rig. It is a small BLUE wire on CONNECTOR #6 PIN #4 of the AF board. Make sure rig is OFF and UNPLUGGED, as you'll be working within 2 inches of 900+ volts DC...which will really
complicate your problem. You can either let rig sit for an hour or so, or using a multimeter capable of measuring DC volts, check for High Voltage on the terminals of the "round thingies"
clearly visible on the underside of the rig. If you are not comfortable with this, find someone who is. I do not know your level of experience. Connector #6 on the AF board is just towards the front of the rig from RL-1(relay -1) on edge of the board. It has 5 wires...can not remember all the colors off the top of my head...but cut the small blue one....I think... third from the right. May I suggest that you obtain a good clear copy of the "Service Manual." It has X-ray views of the boards and is a great help.

I apologize for the usage of "RF deck alignment," being unclear. What you should do, starts on Pg 27, Section 6.3. Even though the rig will receive on the WARC bands it will not transmit until after the wire is cut.Go through the basic "receiver adjustments," then proceed through
the transmitter adjustments. I have found that the adjustments for the WARC bands as the rig comes from the factory..are a bit less that good

73 Joe
WB7UQU

On Sunday, February 23, 2014 1:53 PM, Tim Mcmillin <mcmillint@...> wrote:

>Thanks Joe
>. I assume when i remove the top and examine the RF unit that the referenced connector and pin #s will be clearly identifiable and that one clip of the wire should do it without worring about the AF connection point.
>Tape and tuck at that point.
>Also, i dont see a specific reference to the "RF deck alignment" in the manual.
>Did i miss it?
>Thanks for your help
>Tim, Wa3GPU
>
>Sent from my iPhone
>
>On Feb 23, 2014, at 2:50 PM, Joseph Stiles <stilesjoseph@...> wrote:
>
>
>
>>Tim,
>>

>> There is no overt reason to remove the diodes to enable the WARC bands. You can very simply cut one wire. Take a look at Pg 28 Section 6.5 of the 830S instruction manual. It describes a very simple procedure to enable the WARC bands. I recommend it..vs cutting the
>>diodes. Make sure that you leave a bit of length on either end of your cut. Put some electrical
>>tape on either end..and tuck it away. Also, after cutting the wire in question...I suggest that you do a "basic" RF deck alignment...as stated in the manual.
>>
>>
>>
>>
>>73 Joe
>>WB7UQU
>>
>>
>>
>>On Sunday, February 23, 2014 11:42 AM, timothy mcmillin <mcmillint@...> wrote:
>>
>>
>>>Good morning all,
>>>Since my TS830S was produced prior to WARC band approvals, I will need to remove the diodes that currently prevent transmitting on those bands. Since I am old enough to come from the breadboard era, are there any tips I should know in locating and removing diodes D4,D5, and D6 before in invade my virgin 830.
>>>Many thanks,
>>>Tim, WA3GPU
>>>
>>>
>>>
>
>
>

47841. Re: [TS-520_820_530_830] Secondary plate dial removal

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-24 00:04:47 UTC
From: Joe Reed
Topic: 47832 Message: 47841

I had the same issue and asked the question on the 40 meter net yesterday and was advised to slip a business card behind it and gently use a screwdriver to work it off alternating sides. Works like a charm!

Joe N9JR

Sent from my iPad

On Feb 23, 2014, at 1:42 PM, "bsa0791@...<mailto:bsa0791@...>" <bsa0791@...<mailto:bsa0791@...>> wrote:

The plate knob on the TS 530, how do you get the second, clear plastic knob off? I would like to remove the face plate. Thanks Brian KB4MNG

47842. RE: Looking for a DG1 Readout

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-24 00:51:28 UTC
From: <ke5ftf@...>
Topic: 47829 Message: 47842

I have a complete DG-1A for the 820.....
Counter boards.....
5v power supply.....
Freq. Readout tube.....
Screws to attach....
You can contact me off board...
Bob
KE5FTF

47843. Re: [TS-520_820_530_830] RE: Serial number and purchase date in the Group Database

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-24 01:00:51 UTC
From: Mark Gilger
Topic: 47644 Message: 47843

Jerry,
So far you have the earliest TS-830 that I've
recorded Hope you are keeping good care of it.

Thanks,
Mark, WB0IQK

At 10:53 AM 2/23/2014, jweigh@... wrote:
>
>
>Mark, I am have a TS-830S and the original owner
>wrote the purchase info on the instruction manual.
>The info is: Purchased from Ham Radio Outlet in
>Van Nuys CA. on 1-29-81. The Serial No. is 1050661.
>Keep up the list it will become a very useful
>resource. Where can we view the list?
>Jerry K4GEW
>

47844. Re: [TS-520_820_530_830] RE: Serial number and purchase date in the Group Database

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-24 01:04:31 UTC
From: Mark Gilger
Topic: 47644 Message: 47844

I'm doing up a data base and once we get enough
serial numbers from all the different models,
I'll post it on my Kenwood site. Once that
happens a person should be able to tell aprox.
when his radio was built by comparing DB numbers.

http://wb4hfn.com/KENWOOD/KenwoodHomePage.htm

Mark, WB0IQK

At 03:38 PM 2/23/2014, Chris Robinson wrote:
>
>
>I must have mised the purpose of the list, so
>please forgive my questions! What are you
>gathering the sn for and is this for the
>original purchase only, or is this a project to
>see what rigs are still in operation and by who
>as a result the rig could be tracked through years of hands if it traveled.
>
> ok so now that I may have just confused
> myself, maybe someone can answer the questions!
>
>
>On Sun, Feb 23, 2014 at 7:53 AM,
><<mailto:jweigh@...>jweigh@...> wrote:
>
>
>Mark, I am have a TS-830S and the original owner
>wrote the purchase info on the instruction manual.
>The info is: Purchased from Ham Radio Outlet in
>Van Nuys CA. on 1-29-81. The Serial No. is 1050661.
>Keep up the list it will become a very useful
>resource. Where can we view the list?
>Jerry K4GEW
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>
>
>
>--
>Making life hell for others since 1973
>
>Mr.C.Robinson
> 73 DE KF6NFW

>

47845. Re: [TS-520_820_530_830] WARC bands

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-24 00:53:14 UTC
From: Tim Mcmillin
Topic: 47830 Message: 47845

Joe
Thanks so much for the detail. I feel a lot more comfortable addressing the solution. I will let you know how it turns out once i get up the gimption to do it.
Best
Tim, WA3GPU

Sent from my iPhone

portions of this post were deleted as they were already posted- Joe-WB7UQU

47846. RE: [TS-520_820_530_830] WARC bands

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-24 07:17:13 UTC
From: fpath fpath
Topic: 47830 Message: 47846

Tim,

If you do go about cutting the blue wire, just be very careful not to apply any pressure to the counter board. I have had 2 that have been cracked in 3 places, easy to repair, but if a little care is taken then no problems

73s

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: stilesjoseph@...
Date: Sun, 23 Feb 2014 11:50:06 -0800
Subject: Re: [TS-520_820_530_830] WARC bands

Tim,

There is no overt reason to remove the diodes to enable the WARC bands. You can very simply cut one wire. Take a look at Pg 28 Section 6.5 of the 830S instruction manual. It describes a very simple procedure to enable the WARC bands. I recommend it..vs cutting the diodes. Make sure that you leave a bit of length on either end of your cut. Put some electrical
tape on either end..and tuck it away. Also, after cutting the wire in question...I suggest that you do a "basic" RF deck alignment...as stated in the manual.

73 Joe
WB7UQU

On Sunday, February 23, 2014 11:42 AM, timothy mcmillin <mcmillint@...> wrote:

Good morning all,Since my TS830S was produced prior to WARC band approvals, I will need to remove the diodes that currently prevent transmitting on those bands. Since I am old enough to come from the breadboard era, are there any tips I should know in locating and removing diodes D4,D5, and D6 before in invade my virgin 830.Many thanks,Tim, WA3GPU

47847. TS 530 Band Switch Disassembly

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-24 13:31:41 UTC
From: <bsa0791@...>
Topic: 47847 Message: 47847

I successfully removed the wafers and cleaned the contacts and soldered the rivets.

The 530 was owned by a smoker and the inside is very nasty. I'm in the process of cleaning it up.

Is there a trick to make sure the band switch wafer is 90 degrees to the main board? It would be very easy to slightly have it off 90 degrees when you go to solder it.

Thank you brian kb4mng

47848. Replacement Kenwood Hybrid sprockets are EXCELLENT

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-24 14:08:13 UTC
From: Craig Roberts
Topic: 47644 Message: 47848

The Kenwood Hybrid replacement sprockets offered by Gregory, NR6C, are excellent! Two sets of the upper sprocket wheels arrived at my QTH Saturday and, by that evening, one set each had been installed in my TS-530S and TS-830S.

As Terry noted in his prototype review a couple of weeks ago, these 3D printer-manufactured replacement parts are easy to install, requiring only the removal of your radio's top cover for access to the DRIVE control shaft with its chains and pulleys. No boards need be pulled, no connectors undone nor wires desoldered. Just loosen the four shaft coupler screws and the set screws on the sprocket wheels andf you're ready for the removal and replacement operation. Kenwood even provided a step on the three phenolic shaft mount uprights to make things easier upon reassembly. You'll see what I mean when you get into this simple project.

Installing the first set took me about 45 minutes. Most of that time was spent aligning the new upper sprocket wheels with the lower ones mounted on the three variable caps. (VC1, 2 & 3). Perfect alignment is the key to absolutely smooth operation of the DRIVE control. Utilizing a simple trick, the second set of of new sprocket wheels took less than half the time to install. The "trick" is to mark the position of the old sprocket wheels on the Drive control shaft before removing them. I used a "Sharpie" marker for the job, but one could score the shaft lightly along the edges of the original sprocket wheels for a more precise reference. I took pains to replicate the original factory installation regarding the positions of the chain tensioners and set screws, too. This esthetic step is not really necessary, but makes for a more satisfying repair for an anal someone like me who considers the appearance of the inside of a radio as important as its external cosmetics.

Does my radio now perform better, one may ask? Well -- to be honest -- no. The cement and cable tie repair of the old, cracked sprocket wheels as suggested by my friend (and yours) Mark, WB0IQK, worked perfectly well to keep the old, age-damaged sprockets from slipping and putting VC1, 2 & 3 out of sync. But, I must say, the shiny replacements from Gregory certainly look terrific and give one the sense of permanency that only new parts can impart.

Thank you Mark for your excellent repair instructions and thank you Gregory for these beautifully executed new components. As Mark suggested yesterday during a pleasant QSO, we should brainstorm a bit about other parts that could be fabricated by the nifty 3D printing process.

Oh, and thank you Terry for being our enthusiastic promoter, beta tester and initial reviewer.

73,

Craig
W3CRR
>

47849. (no subject)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-24 14:24:43 UTC
From: Mark Gilger
Topic: 47849 Message: 47849

Dayton Hamvention Kenwood Legacy Forum:
This year will be the first year for the Kenwood
Hybrid Legacy Forum to be held at the Dayton
Hamvention. The forum will be Sunday May 18,
room #2, 10:30 □ 11:30. The following preliminary agenda has been proposed:

```
* History of the legacy products.
* Resource help with parts, documentation, etc..
* SDR integration into the legacy line.
* Rewinding a TS-830 L41 coil.
* Tips & Hints.
* Questions and Answer Technical Session

We hope to see you there.

Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHo
mePage.htm
```

The net recently celebrated it□s 2nd year in
existence on November 1st, 2013. The yearly
check-in totals are posted at the bottom of this
message. It showed we had a 10% increase in our
Saturday check-ins and an 8% on Sunday as compared to the 2012 check-ins.

```
The Saturday 40 meter net had 18 stations
checking in under good band conditions. There
were no new stations checking in. We had the
following number of radios checking in.

4 running TS-520(x)
1 running TS-530(x)
1 running TS-820(x)
4 running TS-830S

I was running my TS-940s with an L4B amplifier.

The Sunday 20 meter net we had 30 check-in under
good band conditions. We had the following number of radios.

6 running TS-520(x)
0 running TS-530(x)
3 running TS-820(x)
```

5 running TS-830S

I was running my TS-820s twins, the TS-820s & R820.

We have been having several people checking in
regularly with their TS-430, TS-440, and
TS-940□s, which of course is not a hybrid,
although over 30+ years old. Everyone is welcome
as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a
net control station, please send me an email.
Currently it's just myself, WB2KNR and WB0SGA. I
would like to get several more. If we do, we can
alternate so everyone might be on a 3-4 week
rotation. It's a lot of fun and a good way to
make sure you station is optimized.

For anyone that has not heard, we have a new web
site that WB4HFN is hosting. He currently has a
very nice site for Drake, Collins and Heathkit
and now Kenwood Hybrids. Good quality manuals
plus sale flyers and brochures will be found
here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 □ Oct. 2012 Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins

November 2013, Saturday□s net total = 94, Sunday□s total = 85
December 2013, Saturday□s net total = 87, Sunday□s total = 103
January 2014, Saturday□s net total = 71, Sunday□s total = 82
February 2014, Saturday□s net total = 80, Sunday□s total = 85 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

47850. Re: [TS-520_820_530_830] TS 530 Band Switch Disassembly

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-24 14:30:32 UTC
From: Craig Roberts
Topic: 47847 Message: 47850

Could one reassemble the repaired wafers in line with their screws and spacers, then solder them onto the RF board as an assembly?

73,

Craig
W3CRR

47851. SERIAL NUMBERS W7IPG

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-24 14:40:56 UTC
From: Mark Gilger
Topic: 47851 Message: 47851

Chris, W7IPG,

You sent me an email direct, but I can't reply back to you because I can't send emails to anyone on the Comcast system. My provider has no idea why, but that's the way it is.

Here are the TS-830's that I have so far.

TS-830S 1050661 1981 1/29/1981 Ham Radio Outlet
TS-830S 3010827 1982 9/4/1982
TS-830S 3080247 1982
TS-830S 3110099 1983
TS-830S Gold 5080011 1985 3/23/1985
TS-830S Gold 6020066 1985 8/5/1985 AES Las Vegas
TS-830S 7050088 1986

Regards,
Mark, WB0IQK

47852. Re: [TS-520_820_530_830] TS 530 Band Switch Disassembly

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-24 14:19:03 UTC
From: Byron Tatum
Topic: 47847 Message: 47852

Brian-
I have done several TS-530/830 RF decks now, as you describe, by carefully de-soldering the 7 switch wafers, examining PC board traces to minimize damage during de-soldering, cleaning them in Tarn-X silver cleaner, then polishing the copper surfaces of PC traces and mating switch contacts, then soldering them together.
After all 7 wafers are done I follow this procedure:
1. I test each switch wafer with an ohmmeter for continuity in each position. While doing this I give the switch wafer a final visual inspection.
2. I insert (very carefully) all of them back into their correct location holes on the board. I visually check the PC pads to make sure none are damaged or pushed upward from board and damaged. The wafers normally stay in place by friction-fit.
3. I double-check that the wafers are in their correct locations.
4. I double check that the wafers are in their correct locations one more time.
5. I install all of the spacers and two long screws, but only hand tighten loosely. Make sure have spacers in correct positions - they can be tricky!
6. I insure the rotary switch center -sections of the wafers are all turned to their "indexing" positions (small notch at 12 o'clock, if I recall correctly)
7. I slide the bandswitch rod through all of the wafers. I test that it will turn freely, examine for any issues, etc.
8. I examine the assembly to insure all wafers are down against the board and at a right angle, and that spacers are installed correctly.
9. Now I solder the pins on each wafer to the PC board traces as found from factory. During the soldering I double check that the assembly remains all the way down against the board and that there are no damaged traces. Sometimes a pad will be lifted/damaged and you must install a tiny wire to insure good continuity to PC trace.
10. After soldering I do a final inspection, then remove the bandswitch rod, install the RF board back into radio.
Byron WA5THJ

47853. Re: TS 530 Band Switch Disassembly

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-24 17:46:42 UTC
From: Brian Allen
Topic: 47847 Message: 47853

Thanks Byron for the detailed method!

brian kb4mng

47854. Re: [TS-520_820_530_830] TS 530 Band Switch Disassembly

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-24 18:15:02 UTC
From: <wagstw46@...>
Topic: 47847 Message: 47854

In my opinion the best way for someone who does not do this very often is to do one deck/wafer at a time. No way to mix up the decks and can look at others to see the indexing as the non-removed ones should all remain in alignment after the bandswitch shaft is pulled.

Cannot assemble all the decks and re-insert back on the RF board as the 2 RF shields remain on the board. Unless you unsolder them and I would not do that. They are held by 4 heavy tabs with a twist to secure them to board.

Very easy to re-align. There is a nice round white circle indented on the white plastic rotor and if you rotate that to 9:00 position you are good. There is also a small U shaped notch that you could rotate to approx 4:00 but I think aligning all wafers at 9:00 is simple and easiest to see.

If you literally follow W0NTA procedure and place band switch to 10 mhz position all the white circles will be aligned at 9:00.

One thing you have to be very careful is 'unsoldering the folded over pins (2 per wafer/deck) as it is easy to lift a pad (even using the Hakko) and I dont want any jumper wires installed on my rigs or my customers if I can prevent it. When re-installing no reason to bend over any contact pins. If you have lifted a pad at one of these folded over pins you might be able to fold it toward the side that has some remaining pad to resolder it.

Terry K9TW

47855. Re: [TS-520_820_530_830] TS 530 Band Switch Disassembly

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-24 19:42:44 UTC
From: W2FID
Topic: 47847 Message: 47855

HI BRIAN:
LOOKS LIKE YOU'RE HAVING A PROBLEM WITH YOUR TS530.
IF I CAN BE OF HELP TO YOU DON'T HESITATE TO CALL ME.
561-842-5522.
MARSHALL
W2FID
P.S. IF I KNEW YOU WANTED A 530.....I WOULD HAVE SOLD YOU MINE.

From: "bsa0791@..." <bsa0791@...>
To: TS-520_820_530_830@yahoogroups.com
Sent: Monday, February 24, 2014 8:31 AM
Subject: [TS-520_820_530_830] TS 530 Band Switch Disassembly

I successfully removed the wafers and cleaned the contacts and soldered the rivets.

The 530 was owned by a smoker and the inside is very nasty. I'm in the process of cleaning it up.

Is there a trick to make sure the band switch wafer is 90 degrees to the main board? It would be very easy to slightly have it off 90 degrees when you go to solder it.

Thank you brian kb4mng

47856. Re: [TS-520_820_530_830] RE: Serial number and purchase date in the Group Database

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-24 23:19:31 UTC
From: KB1TCD
Topic: 47644 Message: 47856

Hi Mark,

I sold my TS-520SE a couple of years ago and upgraded to a TS830S, however I still
have data on the TS-520SE:

SN: 0100270
Date of Sale: 12 Aug 1980
Dealer: Modry Electronics
Box 506
Dewitt, Arkansas 72042

73 de Jose KB1TCD

47857. Re: [TS-520_820_530_830] RE: Serial number and purchase date in the Group Database

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-24 23:43:45 UTC
From: Mark Gilger
Topic: 47644 Message: 47857

Thanks Jose, it's been edded to the list.

Mark, WB0IQK

At 06:19 PM 2/24/2014, KB1TCD wrote:
>
>
>Hi Mark,
>
>I sold my TS-520SE a couple of years ago and upgraded to a TS830S,
>however I still
>have data on the TS-520SE:
>
>SN: 0100270
>Date of Sale: 12 Aug 1980
>Dealer: Modry Electronics
>Box 506
>Dewitt, Arkansas 72042
>
>73 de Jose KB1TCD
>
>

47858. 1st Oscillioscope

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-24 23:43:48 UTC
From: <w8sfc@...>
Topic: 47858 Message: 47858

Can anyone recommend a good scope at least 50 Mhz. I would need it for repairing/neutralizing my TS-830S?
I had a Rigol DS1052E recommended. What are your thoughts?
73,
Sid W8SFC

47859. Re: [TS-520_820_530_830] RE: Serial number and purchase date in the Group Database

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-24 23:50:26 UTC
From: Craig Roberts
Topic: 47644 Message: 47859

Hi Mark,

The Audio Technica microphone is used yesterday was the ATR1500. For our use, it sounds just a nice as Bob Heil's PR series at about half the price. It's essentially a clone of Shure's nail-driving SM58. Back in my AM days a few years ago, the very best audio I ever heard was from a guy using an SM58. The rest of us, some with multi-thousand dollar studio condenser instruments hand crafted by elves in Germany, felt very badly.

Here's the scoop on the Audio Technica clone:

http://www.audio-technica.com/cms/wired_mics/2a964c199518adc1/index.html

Oh, here are the serial number of my two existing Kenwood hybrids. I'm sorry I don't have the dates of sale.

TS-830S No. 1030342 (unknown date of original sale)

TS-530S No. 2021470 (unknown date of original sale)

Talk with you soon.

73,

Craig
W3CRR

47860. Re: [TS-520_820_530_830] RE: Serial number and purchase date in the Group Database

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-24 23:55:18 UTC
From: Mark Gilger
Topic: 47644 Message: 47860

Glad you sent that as you were on my list to
contact. I took the info yesterday after the net,
but threw the paper away as I was cleaning up this morning.

I'll take a look and let you know what I decide.

Sorry, but without the purchase date, the s/n's are no good to me.

Mark, WB0IQK

At 06:50 PM 2/24/2014, you wrote:
>
>
>Hi Mark,
>
>The Audio Technica microphone is used yesterday was the ATR1500. For our
>use, it sounds just a nice as Bob Heil's PR series at about half the
>price. It's essentially a clone of Shure's nail-driving SM58. Back in
>my AM days a few years ago, the very best audio I ever heard was from a
>guy using an SM58. The rest of us, some with multi-thousand dollar
>studio condenser instruments hand crafted by elves in Germany, felt very
>badly.
>
>Here's the scoop on the Audio Technica clone:
>
>http://www.audio-technica.com/cms/wired_mics/2a964c199518adc1/index.html
>
>Oh, here are the serial number of my two existing Kenwood hybrids. I'm
>sorry I don't have the dates of sale.
>
>TS-830S No. 1030342 (unknown date of original sale)
>
>TS-530S No. 2021470 (unknown date of original sale)
>
>Talk with you soon.
>
>73,
>
>Craig
>W3CRR
>

47861. Re: [TS-520_820_530_830] RE: Serial number and purchase date in the Group Database

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-24 23:58:25 UTC
From: Mark Gilger
Topic: 47644 Message: 47861

I see the freq. response is 60-15,000hz. Might be
best to run this through an equalizer and trim
off some of the lows. The best might be to cut
them off at around 300hz. Do you have one in line?

The local AM group did some testing several
months back on some other mics as guys were
getting their equalizers set up and that's about
what we came up with. We also cut them off about
4,000hz. So 300-4,000hz seems to sound the best on AM. This was on 6 meters.

Mark

At 06:50 PM 2/24/2014, Craig Roberts wrote:
>
>
>Hi Mark,
>
>The Audio Technica microphone is used yesterday was the ATR1500. For our
>use, it sounds just a nice as Bob Heil's PR series at about half the
>price. It's essentially a clone of Shure's nail-driving SM58. Back in
>my AM days a few years ago, the very best audio I ever heard was from a
>guy using an SM58. The rest of us, some with multi-thousand dollar
>studio condenser instruments hand crafted by elves in Germany, felt very
>badly.
>
>Here's the scoop on the Audio Technica clone:
>
>http://www.audio-technica.com/cms/wired_mics/2a964c199518adc1/index.html
>
>Oh, here are the serial number of my two existing Kenwood hybrids. I'm
>sorry I don't have the dates of sale.
>
>TS-830S No. 1030342 (unknown date of original sale)
>
>TS-530S No. 2021470 (unknown date of original sale)
>
>Talk with you soon.
>
>73,
>
>Craig
>W3CRR
>

47862. Re: [TS-520_820_530_830] RE: Serial number and purchase date in the Group Database

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-25 00:00:32 UTC
From: Mark Gilger
Topic: 47644 Message: 47862

P.S.

I see Amazon has them for $39.34. So if I order
it I'll probably do it through them.

Mark, WB0IQK

At 06:50 PM 2/24/2014, you wrote:
>
>
>Hi Mark,
>
>The Audio Technica microphone is used yesterday was the ATR1500. For our
>use, it sounds just a nice as Bob Heil's PR series at about half the
>price. It's essentially a clone of Shure's nail-driving SM58. Back in
>my AM days a few years ago, the very best audio I ever heard was from a
>guy using an SM58. The rest of us, some with multi-thousand dollar
>studio condenser instruments hand crafted by elves in Germany, felt very
>badly.
>
>Here's the scoop on the Audio Technica clone:
>
>http://www.audio-technica.com/cms/wired_mics/2a964c199518adc1/index.html
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>Oh, here are the serial number of my two existing Kenwood hybrids. I'm
>sorry I don't have the dates of sale.
>
>TS-830S No. 1030342 (unknown date of original sale)
>
>TS-530S No. 2021470 (unknown date of original sale)
>
>Talk with you soon.
>
>73,
>
>Craig
>W3CRR
>

47863. Re: [TS-520_820_530_830] 1st Oscillioscope

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-25 00:08:20 UTC
From: Cliff White
Topic: 47858 Message: 47863

I, personally, would not buy a Rigol. I've seen a number of failures on only 2 and 3 year old models.

I would recommend an old(ish) analog Tektronix. A Tek 465 is 100MHz, but is heavier than a Rigol. A 475 is 200 or 250MHz, but otherwise very similar to the 465. Both of these can be had with an optional multi-meter mounted on top. A slightly newer model such as the 2245 will still be 100MHz, but is much lighter. For just a little more money, you could get a 2247A, which has a very handy built in counter/timer. It can do frequency measurements, period time, cursors, cycle counter, automatic phase measurements, and much, much more. I've had mine almost a year and I'm still finding new features. The 2252 is very similar, with the addition of GPIB control. With the proper adapters it can be interfaced with a computer. This family is also known for very good reliability. The trade-off here is that the newer model you get, the harder it will be to repair it, should a failure occur. With enough patience, all of these can be had on Ebay for under $300.

If I were you, I would get the 2247A or 2252.

Dave Jones from EEVBlog Did a good episode on buying a your first scope:
http://www.youtube.com/watch?v=Xh9FNRpta9s

Respectfully,
Cliff White, W5CNW
w5cnw@... <mailto:w5cnw@...>
On 02/24/2014 05:43 PM, w8sfc@... wrote:
>
>
> Can anyone recommend a good scope at least 50 Mhz. I would need it for
> repairing/neutralizing my TS-830S?
> I had a Rigol DS1052E recommended. What are your thoughts?
> 73,
> Sid W8SFC
>
>

47864. RE: 1st Oscillioscope

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-25 00:37:31 UTC
From: <wagstw46@...>
Topic: 47858 Message: 47864

I have the 100mhz Rigol 1102E. I finally replaced my Tek475B that was getting tired. I started like most with 10mhz and 20mhz scopes and eventually ended up with a Tek465B for quite a few years and then the 475B for last 5 years or so. Never owned any of the later 24xx or 26xx models.

Phil Salas did a nice review in QST on the Rigol and comparable Tek digital scopes. If you are ARRL member can find it on line.

If you have never had a digital scope it will take some getting use to the display as it has a different look than an analog display. I am still learning how to use mine. Very nice to have all measured parameters displayed on the screen.

You dont need 50mhz bandwidth to neutralize. Can use a 10mhz or 20mhz. The display may begin to flicker and loose sync and blank as you get close to the null so wont be as accurate as using an RF millivolt meter or RF probe but good enough.

However, for accurate measurements while troubleshooting and aligning KW hybrids I wouldnt get anything less than 100 mhz BW scope. Rough rule of thumb is you need 5X times frequency you want to measure. A 100 mhz scope will read approx 3% low at 50 mhz. Remember the BW rating is the point where the measured amplitude of the signal has decreased by -3dB or 70.7%!

So a 100mhz BW scope will allow you to measure at approx 3% accuracy up to approx 30mhz. Good enough for most KW hybrid measurements. Only thing higher in frequency will be VCO on 10 meters.

Terry K9TW

Terry K9TW

47865. Re: [TS-520_820_530_830] RE: 1st Oscillioscope

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-25 01:10:28 UTC
From: Jim
Topic: 47858 Message: 47865

I use an older TEK TDS380 digital scope and the biggest issue I find is that of aliasing. You have what you think is a nice triggered waveform at one sweep rate, only to find that the scope is aliasing and the actual waveform is at a much higher frequency.

When I am probing unknown frequency waveforms, I usually run the sweep rate up to the fastest speed, and then work backwards until I get a good triggered lock. When I made the switch from analog to digital back 15-20 years ago, it took a while to get use to this 'feature', but now I don't even notice.

Jim, KC1RM

On 2/24/2014 7:37 PM, wagstw46@... wrote:
>
> I have the 100mhz Rigol 1102E. I finally replaced my Tek475B that was
> getting tired.
>
> I started like most with 10mhz and 20mhz scopes and eventually ended
> up with a Tek465B for quite a few years and then the 475B for last 5
> years or so. Never owned any of the later 24xx or 26xx models.
>
> Phil Salas did a nice review in QST on the Rigol and comparable Tek
> digital scopes. If you are ARRL member can find it on line.
>
> If you have never had a digital scope it will take some getting use to
> the display as it has a different look than an analog display. I am
> still learning how to use mine. Very nice to have all measured
> parameters displayed on the screen.
>
> You dont need 50mhz bandwidth to neutralize. Can use a 10mhz or 20mhz.
> The display may begin to flicker and loose sync and blank as you get
> close to the null so wont be as accurate as using an RF millivolt
> meter or RF probe but good enough.
>
> However, for accurate measurements while troubleshooting and aligning
> KW hybrids I wouldnt get anything less than 100 mhz BW scope. Rough
> rule of thumb is you need 5X times frequency you want to measure. A
> 100 mhz scope will read approx 3% low at 50 mhz. Remember the BW
> rating is the point where the measured amplitude of the signal has
> decreased by -3dB or 70.7%!
>
> So a 100mhz BW scope will allow you to measure at approx 3% accuracy
> up to approx 30mhz. Good enough for most KW hybrid measurements. Only
> thing higher in frequency will be VCO on 10 meters.
>

> Terry K9TW
>
>
>
>

47866. Re: [TS-520_820_530_830] RE: 1st Oscillioscope

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-25 02:05:47 UTC
From: Cliff White
Topic: 47858 Message: 47866

Another resource I would recommend you read is a series of articles explaining the advantages of analog scopes over digital. He refers a lot to "plug ins" which were used in the higher-end lab grade scopes, such as the Tektronix 500 series and Tektronix 7000 series.

http://readingjimwilliams.blogspot.com/2012/02/vintage-scopes-are-better-part-1.html
http://readingjimwilliams.blogspot.com/2012/02/vintage-scopes-are-better-part-2.html
http://readingjimwilliams.blogspot.com/2012/02/vintage-scopes-are-better-part-3.html
http://readingjimwilliams.blogspot.com/2012/02/vintage-scopes-are-better-part-4.html
http://readingjimwilliams.blogspot.com/2012/09/vintage-scopes-are-better-part-5.html

Part 5 explains aliasing as Jim mentioned below.

Respectfully,
Cliff White, W5CNW
w5cnw@... <mailto:w5cnw@...>
On 02/24/2014 07:10 PM, Jim wrote:
>
>
> I use an older TEK TDS380 digital scope and the biggest issue I find
> is that of aliasing.?? You have what you think is a nice triggered
> waveform at one sweep rate, only to find that the scope is aliasing
> and the actual waveform is at a much higher frequency.??
>
> When I am probing unknown frequency waveforms, I usually run the sweep
> rate up to the fastest speed, and then work backwards until I get a
> good triggered lock.?? When I made the switch from analog to digital
> back 15-20 years ago, it took a while to get use to this 'feature',
> but now I don't even notice.
>
> Jim, KC1RM
>
>
> On 2/24/2014 7:37 PM, wagstw46@... wrote:
>> ??
>>
>> I have the 100mhz Rigol 1102E. I finally replaced my Tek475B that was
>> getting tired. ??
>>
>> I started like most with 10mhz and 20mhz scopes and eventually ended
>> up with a Tek465B for quite a few years and then the 475B for last 5
>> years or so. Never owned any of the later 24xx or 26xx models.??
>>
>> Phil Salas did a nice review in QST on the Rigol and comparable Tek
>> digital scopes. ??If you are ARRL member can find it on line.
>>

>> If you have never had a digital scope it will take some getting use
>> to the display as it has a different look than an analog display. I
>> am still learning how to use mine. Very nice to have all measured
>> parameters displayed on the screen.??
>>
>> You dont need 50mhz bandwidth to neutralize. Can use a 10mhz or
>> 20mhz. The display may begin to flicker and loose sync and blank as
>> you get close to the null so wont be as accurate as using an RF
>> millivolt meter or RF probe but good enough.??
>>
>> However, ??for accurate measurements while troubleshooting and
>> aligning KW hybrids I wouldnt get anything less than 100 mhz BW
>> scope. Rough rule of thumb is you need 5X times frequency you want to
>> measure. A 100 mhz scope will read approx 3% low at 50 mhz.
>> ??Remember the BW rating is the point where the measured amplitude of
>> the signal has decreased by -3dB or 70.7%!??
>>
>> So a 100mhz BW scope will allow you to measure at approx 3% accuracy
>> up to approx 30mhz. Good enough for most KW hybrid measurements. Only
>> thing higher in frequency will be VCO on 10 meters.??
>>
>> Terry K9TW
>>
>>
>>
>>
>
>
>
>

47867. Re: [TS-520_820_530_830] 1st Oscillioscope

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-25 10:42:46 UTC
From: Gordon JC Pearce
Topic: 47858 Message: 47867

On Mon, Feb 24, 2014 at 03:43:48PM -0800, w8sfc@... wrote:
> Can anyone recommend a good scope at least 50 Mhz. I would need it for repairing/neutralizing my TS-830S?
> I had a Rigol DS1052E recommended. What are your thoughts?
> 73,
> Sid W8SFC

Use any analogue 'scope with greater than audio bandwidth. You won't need 50MHz. Even a 10MHz 'scope will be more than adequate.

Pick up any old dual-trace analogue 'scope that you can buy locally and see working.

--
Gordonjcp MM0YEQ

47868. RE: 1st Oscillioscope

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-25 12:25:43 UTC
From: <wagstw46@...>
Topic: 47858 Message: 47868

Sid

If I had to buy just one instrument to troubleshoot and align KW hybrids it would be a RF millivolt meter. Almost no learning curve and much easier and faster to use than an O-scope. I favor Boontons and use a 92E analog. I prefer analog for peaking and nulling operations. A Boonton or Millivac is a good choice. Of course must have the probe and a 40dB or 100:1 capacitive voltage divider is required to extend range from 3 volts to 300 volts.

With this instrument you can quickly measure and adjust Het Osc levels, Carrier osc level, VCO levels, VFO levels, Carrier null and balance, Neutralizing, and run TX level diagrams to measure and trouble shoot RF drive from the TIF amp to the dummy load.

Mini-Circuits Labs makes a USB model PWR-6GHS that you use with your laptop. Not cheap ($800.00) but if thinking about a new scope then might want to look at it.

Your cheapest option is a Heath VTVM like an IM-18 and two germanium diode probes. Need a single diode like a 309C and a 3 diode like a PK-3. Only limitation here is you will not be able to measure the TIF level as too low for this method. To measure 8.830mhz TIF level a Tek465B will work fine

With a RF millivolt meter, frequency counter, and good RF signal generator you can do about 99% of every thing you need to do on a KW hybrid.

Terry K9TW

47869. Re: [TS-520_820_530_830] 1st Oscillioscope

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-25 14:40:26 UTC
From: <wagstw46@...>
Topic: 47858 Message: 47869

Sid: As you can see your question has resulted in as many opinions as people. The challenge for you is to sort out the good from the not so good and the just flat wrong.

I disagree with Gordons counsel to use "any scope with greater than audio BW". I would be doing my customers a real dis-service to charge them for a complete service manual alignment trying to use a old 5mhz or 10mhz BW scope. That would be pretending and playing at KW hybrid service if not fraud. What kind of scope do you think Jim Showker, Ken Kempski, Cliff Avvid, DIck Housden uses to service KW hybrids? These guys dont charge several hundred dollars and skip steps in the alignment due to test gear limitations.

Your question was: What scope do you recommend to allow me to neutralize and SERVICE my TS-830. It has already been stated correctly that you do not need a 100mhz BW scope to neutralize. However my advice still stands if you are going to buy a scope to service your TS-830 you need nothing less than a 100mhz BW scope. Tek465 and 475 models abound on Ebay and parts units can be purchased to address such things as worn out vertical attenuators and worn out sweep controls, etc. which most of these have due to aging.

Most of us start out with modest test gear. Some even homebrew their own. It allows several things. 1. Learn how to make measurements. 2 Learn how to use the particular piece of test gear 3. Most importantly learn the limitations of that test gear and sources of measurement errors. 4. Develop work arounds to overcome some of those limitations. For example a general coverage receiver can serve as a piece of test gear. You can do reasonable close neutralization by listening to the null on another receiver.

As to Gordons counsel I ask when is last time he has had low RF drive problem rig on the bench and tried to accurately measure the output of the TIF amp from the IF board with an O-scope that had just greater than audio bandwidth?

I would sure hate to send my KW hybrids off to any of the reputable service shops and pay $250 to $300 for alignment only to find they used a 5 mhz Dumont scope!

My counsel still stands relative to question you asked about your TS-830. Dont need 100mhz scope to neutralize, but I would buy nothing less for service and alignment work if you are serious about it and want to approach factory spec performance. It just depends on what your end goal is and your definition of quality. Also think about a RF Millivolt meter in lieu of the scope. Can always add a scope later.

As to Digital vs Analog scopes will leave that up to you. I believe the "aliasing" problem is really due to unfamiliarity and operator error and with experience you should be able to measure your TS-830 8.830mhz signal by starting at the highest time scale and then stepping down the horizontal sweep until you have a clean stable display. I had to learn this pretty early when I transitioned to my Rigol 1102. I am no digital scope expert by any means but have no problem using it to make required rf signal measurements on any of the KW hybrids.

I would really be good for Sid and other newer hybrid owners to hear from the fellows who repair and service their own KW hybrids and started out very modestly and have upgraded their scopes or upgraded from rf probe/vtvm to rf millivolt meter in last year or two and

why they did that.

Terry K9TW
.

47870. Re: [TS-520_820_530_830] 1st Oscillioscope

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-25 16:01:18 UTC
From: Gordon JC Pearce
Topic: 47858 Message: 47870

On Tue, Feb 25, 2014 at 06:40:26AM -0800, wagstw46@... wrote:
> I disagree with Gordons counsel to use "any scope with greater than audio BW". I would be doing my customers a real dis-service to charge them for a complete service manual alignment trying to use a old 5mhz or 10mhz BW scope. That would be pretending and playing at KW hybrid service if not fraud. What kind of scope do you think Jim Showker, Ken Kempski, Cliff Avvid, DIck Housden uses to service KW hybrids? These guys dont charge several hundred dollars and skip steps in the alignment due to test gear limitations.

The OP was talking about setting the neutralising. You don't need anything particularly special to do that, but having a 'scope makes it easier.

A dummy load and a reasonably sensitive 10m receiver will work just as well.

--
Gordonjcp MM0YEQ

47871. Re: [TS-520_820_530_830] 1st Oscillioscope

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-25 16:20:18 UTC
From: K5MYJ
Topic: 47858 Message: 47871

The Heathkit Cantenna has a RF tap on it that serves as an RF probe on the output of the antenna. You connect it to a VTVM.

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"
----- Original Message -----
From: Gordon JC Pearce
To: TS-520_820_530_830@yahoogroups.com
Sent: Tuesday, February 25, 2014 8:01 AM
Subject: Re: [TS-520_820_530_830] 1st Oscillioscope

On Tue, Feb 25, 2014 at 06:40:26AM -0800, wagstw46@yahoo.com wrote:
> I disagree with Gordons counsel to use "any scope with greater than audio BW". I would be doing my customers a real dis-service to charge them for a complete service manual alignment trying to use a old 5mhz or 10mhz BW scope. That would be pretending and playing at KW hybrid service if not fraud. What kind of scope do you think Jim Showker, Ken Kempski, Cliff Avvid, DIck Housden uses to service KW hybrids? These guys dont charge several hundred dollars and skip steps in the alignment due to test gear limitations.

The OP was talking about setting the neutralising. You don't need anything particularly special to do that, but having a 'scope makes it easier.

A dummy load and a reasonably sensitive 10m receiver will work just as well.

--
Gordonjcp MM0YEQ

47872. Re: [TS-520_820_530_830] 1st Oscillioscope

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-25 17:18:02 UTC
From: <w8sfc@...>
Topic: 47858 Message: 47872

The only test instrument I have is a FET analog VOM. I have heard from K4EEA that I could use it to neutralize it with a "modified RF probe (all you need is the diode). I am looking around for a good scope , so Gents, thank all of you for your replies.
73
Sid W8SFC

47873. Re: [TS-520_820_530_830] 1st Oscillioscope

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-25 17:49:18 UTC
From: <wagstw46@...>
Topic: 47858 Message: 47873

FET VOM will be fine. Similar to using VTVM for this task. Just becareful with a single diode RF probe. Easy to burn out the diode.

If going to use the FET meter and RF probe I would make a 50 ohm dummy load from two 100 ohm 1/2 watt resistors in parallel soldered to a PL-259. Leave the resistor leads long so you can connect your RF probe across them to measure the RF voltage drop.

After loading rig to full output power into a normal dummy load then flip Screen grid switch off and remove the high power dummy load and connect your miniature dummy load to the rig. Connect your Rf probe across this load and connect its output to your FET VOM.

Yes you could just use a signal diode and place it in series with your VOM test leads to use it as an RF detector. Place it in hot or Red lead and connect Black lead to rig chassis ground. You are not interested in measuring the RF voltage just being able to null it. You dont care about diode polarity.

Make sure you use an insulated tool to turn the neutralizing cap to avoid shock hazard. Also you will be within reaching and touching distance of the 900vdc anode voltage working in bottom side of the chassis.

You may want to exercise NC cap first with rig line cord unplugged. It will turn stiff by design.

If you have talked to Ken about this I assume you would have likewise asked him about a scope? I think could have saved a few keystrokes.

Terry K9TW

47874. Re: [TS-520_820_530_830] 1st Oscillioscope

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-25 18:13:06 UTC
From: Mike W5RKL
Topic: 47858 Message: 47874

Sid,

While a 50Mhz scope would be nice to have, you don't need a 50Mhz scope to neutralize the finals. A lower frequency scope will work. I use a 20Mhz scope and I achieve the same results a VTVM with an RF probe does.

73
Mike W5RKL

On 2/25/2014 11:18 AM, w8sfc@... wrote:
>
> The only test instrument I have is a FET analog VOM. I have heard from
> K4EEA that I could use it to neutralize it with a "modified RF probe
> (all you need is the diode). I am looking around for a good scope , so
> Gents, thank all of you for your replies.
> 73
> Sid W8SFC
>
>

47875. Re: [TS-520_820_530_830] 1st Oscillioscope

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-25 21:29:28 UTC
From: David King
Topic: 47858 Message: 47875

As you discuss the different 'scopes...what about the one that ARRL lists at http://www.arrl.org/shop/Parallax-USB-Oscilloscope?

Would it be useful for the work being contemplated? Not knowing anything about scopes, I've been following this discussion with interest...but have wondered if the $140 buck price tag would be worth it or not and not been willing to pull the trigger and then find out it wasn't really useful. Got the computer...just not sure if this would be useful or not.

David WY7DK

47876. RE: 1st Oscillioscope

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-25 22:24:22 UTC
From: clifford wright
Topic: 47858 Message: 47876

I'm frankly not so sure about USB Oscilloscopes.
I tried an Australian Bitscope model when I bought my new GW-Instek 1102. The Aussie one claimed some quite remarkable bandwidth figures but was VERY hard to drive. The GW has a genuine 120MHZ (Measured) bandwidth using one channel and can do anything you need to service Ham gear. Also it was only about $640 NZ (about $550 US). The Bitscope went back to Aussie!

However there are quite a few good digital scopes on the market in that price range, just remember that they can have aliasing problems if not set to the correct sweep rate.
I would NOT be without a scope and these days you need at least 100 MHz bandwidth to service modern HF gear properly.
ZL1BDA.

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

47877. Re: [TS-520_820_530_830] 1st Oscillioscope

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-25 22:35:21 UTC
From: clifford wright
Topic: 47858 Message: 47877

WARNING!!! David. That little scope is NOT compatible with Windows 7 or 8.
(according to its own Ad). That means that you would have to use it with
an older laptop
, which also means that the performance would not be that great.
My experience is that USB scopes are VERY software dependent and many of
them have much slower
A/D converters in them that only work at high frequencies with
repetitive signals.
In other words they have to see the same signal many times to display it.
It looks quite like the Bitscope and I also found that it was very hard
to use as test equipment, simply
because it was so small and light.
ZL1BDA.

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

47878. Re: [TS-520_820_530_830] 1st Oscillioscope

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-25 23:09:06 UTC
From: Rob
Topic: 47858 Message: 47878

Hi Group,
I have been using a PICO Scope 2204 with the built in tracking generator for about 2 years now and have found the software quite easy to operate.
I use it mainly to characterize filters but as a scope it does a good job, no issues with aliasing either. If you're in a hurry (?) just hit the auto configure button and viola ! Good readings every time.
I also have a trusty old CRT scope as well because there are some things that I feel that it does a bit better (it's probably only me though, I do prefer Analogue.)
73,
Rob VK3BRS

47879. Re: [TS-520_820_530_830] 1st Oscillioscope

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-25 17:59:04 UTC
From: Craig Roberts
Topic: 47858 Message: 47879

Use an antenna switch . Feed your TS as directed into a dummy load through one position of the switch. Hook up a receiver tuned to 10 meters to another switch position (no antenna) and neutralize away. The switch's internal leakage provides just the right signal level.

73,
Craig
W3CRR

Sent from my iPhone

On Feb 25, 2014, at 12:18, <w8sfc@...> wrote:

> The only test instrument I have is a FET analog VOM. I have heard from K4EEA that I could use it to neutralize it with a "modified RF probe (all you need is the diode). I am looking around for a good scope , so Gents, thank all of you for your replies.
> 73
> Sid W8SFC
>
>

47880. TS 530 Band Switch

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-26 01:37:28 UTC
From: <bsa0791@...>
Topic: 47880 Message: 47880

I did the band switch fix and everything seemed to go together fine. I disassembled the switch per the instructions on the web and it did not seem too hard. Very time consuming because I really took time to make sure it was right. This afternoon, I reassembled the TS530 and left the cover off. I made sure the heater was off and powered the rig on. Immediately, there was blue arc from the rear wafer, closest to the cage. I quickly cut it off. I pulled the rf board back out expecting to see the switch vaporized. Every thing looks fine. I checked with an ohm meter to make sure that the contacts on the wafer was not touching the two support bars holding the assembly together. What I did find, was a white mark on the rear metal spacer that rest on the wafer. It appears there was arcing going on between the wafer terminal and the little metal support but there is no direct contact but the two seem really close together. Any idea what is going on? I'm sure the radio is more than likely toast!

Brian KB4MNG

47881. Re: [TS-520_820_530_830] TS 530 Band Switch

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-26 04:50:31 UTC
From: Joseph Stiles
Topic: 47880 Message: 47881

Brian,

I had a similar experience awhile ago. I used "conductive ink" to do the band switch repair. I had just a bit too much...and it was touching the end small ferrule that goes over the long screw. Saw a nice blue spark...and a zap. Did not hurt anything...except my pride. Take a VERY close
look at the spacer(s) and make SURE they are not touching any part of the wafers foil traces

73 Joe
WB7UQU

On Tuesday, February 25, 2014 5:37 PM, "bsa0791@..." <bsa0791@...> wrote:

>I did the band switch fix and everything seemed to go together fine. I disassembled the switch per the instructions on the web and it did not seem too hard. Very time consuming because I really took time to make sure it was right. This afternoon, I reassembled the TS530 and left the cover off. I made sure the heater was off and powered the rig on. Immediately, there was blue arc from the rear wafer, closest to the cage. I quickly cut it off. I pulled the rf board back out expecting to see the switch vaporized. Every thing looks fine. I checked with an ohm meter to make sure that the contacts on the wafer was not touching the two support bars holding the assembly together. What I did find, was a white mark on the rear metal spacer that rest on the wafer. It appears there was arcing going on between the wafer terminal and the little metal support but there is no direct contact but the two seem really close together. Any idea what is going on? I'm sure the
radio is more than likely toast!
>
>Brian KB4MNG
>
>
>

47882. Re: [TS-520_820_530_830] 1st Oscillioscope

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-26 07:31:05 UTC
From: Gordon JC Pearce
Topic: 47858 Message: 47882

On Tue, Feb 25, 2014 at 08:20:18AM -0800, K5MYJ wrote:
> The Heathkit Cantenna has a RF tap on it that serves as an RF probe on the output of the antenna. You connect it to a VTVM.
>
> Bob Macklin
> K5MYJ

Exactly. My broader point is that there's just about nothing in these radios where you need an accurate measurement of RF voltage - just an idea of "less" or "more". If you're getting into the things where you need a really good measurement of RF voltage, there are a whole bunch of other expensive specialised things you need too.

I still stand my my point that for the vast majority of repairs of equipment, someone with no 'scope at all does not need to be going out and buying the latests and greatest 500MSPS digital storage wunderkind. When these radios were new you *wished* you had a 5MHz 'scope...

--
Gordonjcp MM0YEQ

47883. Re: [TS-520_820_530_830] 1st Oscillioscope

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-26 07:53:51 UTC
From: Gordon JC Pearce
Topic: 47858 Message: 47883

On Tue, Feb 25, 2014 at 02:29:28PM -0700, David King wrote:
> As you discuss the different 'scopes...what about the one that ARRL
> lists at http://www.arrl.org/shop/Parallax-USB-Oscilloscope?
>
> Would it be useful for the work being contemplated? Not knowing
> anything about scopes, I've been following this discussion with
> interest...but have wondered if the $140 buck price tag would be worth
> it or not and not been willing to pull the trigger and then find out it
> wasn't really useful. Got the computer...just not sure if this would be
> useful or not.
>
> David WY7DK

For that sort of money you could pick up a nice old second-hand HP DSO, which will not be as portable as something you stuff into the side of your laptop but will actually work.

Furthermore, many of these USB 'scopes seem to only support Windows XP, so you need to be some kind of autistic savant to get through all the training courses to learn how to use Windows *then* figure out the 'scope.

--
Gordonjcp MM0YEQ

47884. Re: [TS-520_820_530_830] 1st Oscillioscope

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-26 14:10:54 UTC
From: <wagstw46@...>
Topic: 47858 Message: 47884

Against my better judgement I will respond to this. I dont know if you fellows are just not that savy or you are suffering from that very common ham malaise of bring frugal or just plain cheap?

I disagree. The Cantenna does not serve as a very good "RF probe".

First of all it is a fixed 100:1 voltage divider so not very useful for measuring low levels of RF.

It is relative power indicator and I would never use it to try to measure and set things like VFO output or Carrier Osc output levels in a KW hybrid or any rig. Could use it for some peaking and nulling operations realizing the null level is directly related to the voltage divider ratio, but certainly not for measurement.

Lastly, its dc output is very frequency dependent.

For example at 100 watts into the Cantenna on 7.2 mhz the detector will produce approx 2.25 vdc, at 14.2 mhz it will produce approx 1.35 vdc, and at 28 mhz it will produce approx 4.5vdc. Each Cantenna is a little different in this regard so have to run your own spread sheet.

I suppose this falls into the "more or less" quality standard of rf voltage measurement that is being espoused here? Sure glad factory didnt use that approach.

We all have definitions of quality and good enough. For the newer folks following this banter suggest you look at the service manual and see what Required Test Equipment is listed and look at the specs of that gear. You will see an RF millivolt meter listed capable of measuring 10mv at greater than 50mhz. There is a reason the factory used this level of test gear and you should be glad they did.

Also look at the acceptance criteria listed for RF voltages and you will see most are +/- 1dB. For the Carrier Osc level of 300 mv that means 267mv to 377mv. If you dont know how to figure this tolerance write me off list and I will help you.

Does this mean you cant use your Heath VTVM and 309C probe? No but it does mean it has limitations that wont allow you to measure and adjust all the key signals. For example to measure a 15mv TIF signal. You will see no deflection on your VTVM. It also means that a Carrier Osc that has been set to precisely 300 mv with a 100mhz O-scope or a Boonton 92E Millivolt meter will read approx 200mv with your Heath test gear. There is a reason for setting all the Mixer LO levels where KW wants them.

I am moving on and you guys can repair and maintain your rigs at any performance level you chose. If any of the new folks need help I will be glad to try to assist you off list.

Terry K9TW

47885. RE: [TS-520_820_530_830] 1st Oscillioscope

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-26 08:33:47 UTC
From: Jim Best
Topic: 47858 Message: 47885

If anyone is looking for a reasonable priced O'Scope I have two that I will

sell for about 50 bux each plus shipping. Contact me direct if interested.
One is a

60 Mhz and the second is about 40 Mhz.

73 Jim

WU7G

On Tue, Feb 25, 2014 at 08:20:18AM -0800, K5MYJ wrote:
> The Heathkit Cantenna has a RF tap on it that serves as an RF probe on the
output of the antenna. You connect it to a VTVM.
>
> Bob Macklin
> K5MYJ

Exactly. My broader point is that there's just about nothing in these radios
where you need an accurate measurement of RF voltage - just an idea of
"less" or "more". If you're getting into the things where you need a really
good measurement of RF voltage, there are a whole bunch of other expensive
specialised things you need too.

I still stand my my point that for the vast majority of repairs of
equipment, someone with no 'scope at all does not need to be going out and
buying the latests and greatest 500MSPS digital storage wunderkind. When
these radios were new you *wished* you had a 5MHz 'scope...

--
Gordonjcp MM0YEQ

47886. Re: TS 530 Band Switch

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-26 16:45:24 UTC
From: Brian Allen
Topic: 47880 Message: 47886

Is there anything I can apply that would help insulate it.?

thank you brian nc kb4mng

47887. RE: TS-820 frequency jumping

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-26 17:14:46 UTC
From: <dougc314@...>
Topic: 47316 Message: 47887

Based on the report, I assume.

1) The RX and TX frequency of the radio is moving. (for at least several seconds at a time (can hear it)
2) Its staying phase locked.
If it wasn't staying locked then it would almost certainly move way more than a few kHz. The VCO would get driven to its highest or lowest frequency, and possibly not even oscillate. The digital display would show a huge error, or no count.

One thing that hasn't been mentioned or asked if it's on all bands or just some, or one. If there is some minor instability in the VCO loop (or loop filter) the PLL would just undo the frequency error, at the expense of some phase noise, which wouldn't manifest itself as frequency jumps, but perhaps audible noise. A PLL can't stay locked and have a frequency error (If the reference is stable). The TS-820 PLL has two crystal oscillators (CAR and HET) which make part of the frequency equation. If either of those change frequency the final frequency that the VCO will get tuned to by the PLL will shift Hz for Hz. Also, of course VFO instability will cause this.

As I have a new to me 820 that I just un CB-ed and tuned the whole VCO/CAR, etc. (As well as fixed an intermittent 9V) I decided to conduct a pull-ability experiment. By removing the two 9V wires from the AV-AVR unit I ran the entire rig's 9V circuitry off of an adjustable bench supply. Here is the results on 10 M
Volt 820 Display Count Shift VCO freq VCO shift
8.25 29747x -3000 38.57985 +160
Frequency display was jumpy in the 100 Hz digit VCO seemed stable
8.50 297500 0 38.57980 +90
8.75 297501 +100 38.57976 +50
9.0 297500 0 38.57971 0
9.25 297499 -100 38.57965 -60
9.50 297498 -200 38.57960 -110

From this test I conclude that a 9V issue can't cause a 3 kHz shift in the TX or RX frequency. I assume that at 8.25 V the internal counter was not functioning correctly. Of course I wasn't about to try 14V on the 9V supply, but if the volt sensitivity is linear that would cause 700 Hz down shifts in the VCO, I'm pretty sure the rig quits working if the 9V gets much below 8V.

My conclusion is that the CAR unit or the VFO is acting up. The CAR has two crystals that are meant to generate a 3 Khz shift. Is there any chance the CAR unit is switching between USB and LSB? If it's happening on all bands than it's the CAR or VFO. If its on one the HET oscillator has a bad oscillator for that band, probably a mechanical intermittent connection issue that allowing it to still oscillate, but change frequency.

73 and good luck
KV4UW

Doug Crowe

47888. Re: [TS-520_820_530_830] Re: TS 530 Band Switch

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-26 17:42:11 UTC
From: Joseph Stiles
Topic: 47880 Message: 47888

Brian,

you may be able to try a small "fiber" washer. But, I would try and see where it was/is arcing.
You have may only have to loosen the assemble(the long screw) and move the small ferrule away from the offending area. I just got a bit over zealous with the "ink" and it completed a path
from the wafer finger foil trace to the ferrule/screw/nut. I could see where the problem was, and
just scraped away the offending ink...and made sure that the offending parts were as far away from each other as possible....in this case you don't have much to work with...1/32" of "slack."

73 Joe
WB7UQU

On Wednesday, February 26, 2014 8:45 AM, Brian Allen <bsa0791@yahoo.com> wrote:

>Is there anything I can apply that would help insulate it.?
>
>
>thank you brian nc kb4mng
>
>
>

47889. Re: TS 530 Band Switch

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-26 18:22:59 UTC
From: <wagstw46@...>
Topic: 47880 Message: 47889

Brian:

If the fire came from the deck closest to the PA cage your are dealing with 340vdc Driver tube anode voltage applied to the wiper of S1-7 wafer. You are going to have to pull the RF board and examine that switch under good lite and magnification as sounds like you have a track to ground. You may be able to see it without pulling that band switch vertical board again, but most likely will have to pull to fix it. Should be no reason to need any additional insulation or any place to put it. If there is a carbon track it will have to be 100% scraped away. Solvents wont touch carbon track.

I would look at the spacer on each side at 9:00 and 3:00 to see if the solder you applied at that rivet head/contact/trace isnt touching the spacer which is grounded. Might be able to remove the back hardware and pull those two spacers and examine the space there and remove excess solder and clean out any carbon track with the S1-7 board in place?

With RF board out take a good look at L36 plate choke and R38 resistor to make sure they are not discolored or burned. If it were me I would measure them but not sure if you can do that?

This bandswitch repair is not easy and requires lots of attention to detail and must have very clean brite metal and use small gauge solder and apply very sparingly. I think for the 1st timer it is easier to install very small jumper wire thru the rectangular window in the contact hair pin turn and tack other end to associated cleaned PC trace. Much easier to get these two places cleaned to brite metal. Not as pretty a repair, but I think easier to perform.

Terry K9TW

47890. RE: [TS-520_820_530_830] 1st Oscillioscope

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-26 19:05:34 UTC
From: <w8sfc@...>
Topic: 47858 Message: 47890

I truly appreciate all of your responses. I have not spoken to K4EAA, just read about the RF probe on his site. Terry, you are a gold mine of info and I truly appreciate your guidance.
73 Gents
Sid W8SFC

47891. Re: [TS-520_820_530_830] Re: TS 530 Band Switch

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-26 20:45:22 UTC
From: W2FID
Topic: 47880 Message: 47891

BRIAN:
IF YOU HAVE ROOM TO WORK WITH A SMALL APPLICATOR USE A PRODUCT CALLED "LIQUID TAPE". A FEW COATS SHOULD DO THE TRICK. I'VE USED IT BEFORE. IT'S GOOD STUFF.
MARSHALL
W2FID

From: Brian Allen <bsa0791@...>
To: "TS-520_820_530_830@yahoogroups.com" <TS-520_820_530_830@yahoogroups.com>
Sent: Wednesday, February 26, 2014 11:45 AM
Subject: [TS-520_820_530_830] Re: TS 530 Band Switch

Is there anything I can apply that would help insulate it.?

thank you brian nc kb4mng

47892. TS 520S band switch cleaning

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-26 21:43:22 UTC
From: <jweigh@...>
Topic: 47892 Message: 47892

I'm getting ready to clean the switches of the TS520S with Deoxit and I have some questions.
1: The band switch(s) do not look to be removable as in the later radios without a lot of solder
removal. They are boards and not wafers. Will just a good spraying and small paint brush rubbing be
satisfactory, then canned air? Will Deoxit overspray have a bad effect on the boards below the switches?
2: Can all the other(rotary) switches on the front panel be done by just spraying into them as best as
possible then exorcizing them and then canned air?
3: I need guidance on lubing the front bearing of the VFO.
Is it as simple as removing the two screws on the front(after faceplate has been removed) and gently
sliding it off? Then what sort of lube to apply?
4: Lastly how much light oil should be put into the fan felt pads? I have a syringe as an applicator.

Thanks, tips or don'ts will be greatly appreciated.
Jerry K4GEW

47893. RE: [TS-520_820_530_830] 1st Oscillioscope

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-26 22:02:33 UTC
From: <wagstw46@...>
Topic: 47858 Message: 47893

Sid

OK I mis-understood you.

If you decide to get a scope and need some help learning how to use it I highly recommend taking a look at the Tutorials on You Tube that Alan W2AEW has posted. He is a Tektronix Field Engineer who has excellent instructor platform skills.

Terry K9TW

47894. Re: [TS-520_820_530_830] Re: TS 530 Band Switch

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-26 22:10:55 UTC
From: <wagstw46@...>
Topic: 47880 Message: 47894

Please Please DO NOT not apply liquid tape to your TS-530 band switch boards!!!!!!

You have yet to determine the root cause of the arc over.

You have yet to determine the extent of damage.

Perhaps if you lived on a deserted island thousands of miles from civilization and rig was your life line, but not as a matter of routine. Would you want a Kenwood service center to be applying Liquid Tape anywhere in your KW hybrid?

Terry K9TW

47895. Fw: [TS-520_820_530_830] TS 520S band switch cleaning

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-26 22:21:00 UTC
From: Joseph Stiles
Topic: 47892 Message: 47895

Jerry,

Yes, the 520 series is a bit different from the "newer' brothers.

1: As in everything, opinions vary, but I have used DeOxit D5 many times with no detrimental
effect on "other boards." I do not want to get into a lengthy argument about the pros/cons of different cleaners/lubes. Just make sure that all residue is gone/dry prior to applying power. I feel it is not necessary to apply the cleaner-in-question with an applicator..I just use the plastic extension tube.Use the minimum amount possible...rotate the band switch through its rotationnumerous times ..."blow off" with canned air...and repeat.
2: Yes...but I recommend exercising...exorcizing may require things we need not get into..hihi
Some members like to use "fader lube" after a cleaning of rotary pots..etc
3: Which "front bearing" are you referring to? As stated prior, there are many different opinions about what to use. I use a synthetic Teflon based lube. Terry-k9tw uses I think, some kind of high speed turbine oil. It should be light and non-contaminating.

4: The fan is removable. Remove fan. Use the above lube...saturate the felt and place the fan over a paper towel or something and saturate the felt...and let the excess drip back out onto the towel overnight. The amount depends on how long the felts have been dry...I've seen some that were rock hard.

I hope this has not created a "fecal matter" storm. So, let's help and not confuse.

73 Joe
WB7UQU

On Wednesday, February 26, 2014 1:57 PM, "jweigh@..." <jweigh@...> wrote:

>I'm getting ready to clean the switches of the TS520S with Deoxit
and I have some questions.
>1: The band switch(s) do not look to be removable as in the later
radios without a lot of solder
>   removal. They are boards and not wafers. Will just a good spraying and small paint brush
rubbing be
>   satisfactory, then canned air? Will Deoxit overspray have a bad effect on the boards below the switches?
>2: Can all the other(rotary) switches on the front panel be done
by just spraying into them as best as
>   possible then exorcizing them and then canned air?
>3: I need guidance on lubing the front bearing of the VFO.
>   Is it as simple as removing the two screws on the front(after
faceplate has been removed) and gently
>   sliding it off? Then what sort of lube to apply?
>4: Lastly how much light oil should be put into the fan felt pads? I have a syringe as an

applicator.
>
>
>
>Thanks, tips or don'ts will be greatly appreciated.
>Jerry K4GEW
>
>
>

47896. Re: [TS-520_820_530_830] Re: TS 530 Band Switch

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-27 02:18:21 UTC
From: <bsa0791@...>
Topic: 47880 Message: 47896

Well, I took the band switch apart again. Getting pretty good at it now. It did not arc where I thought. One of the tabs had bent over near the bottom, must have happened during installation. It was not directly touching but hair thin close to one of the board terminals at the bottom. It was close enough it was arcing. Nothing was vaporized but the tab had black residue and a small shiny spot. Anyway, that has been fixed and the band switch reassembled. Tomorrow, I hope to try it again. I'm pretty certain I will not see flash again, just hope I did not damage anything else.

I do have another question. When the 3 variable plate caps are turned clockwise to the max, is it ok for the fins of the caps to rest on the capacitor frame?

Thanks Brian KB4MNG

47897. Re: [TS-520_820_530_830] Re: TS 530 Band Switch

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-27 11:23:25 UTC
From: <wagstw46@...>
Topic: 47880 Message: 47897

The rotating plates are not resting on the frame. All three should fully mesh in sync. When you install chains on the sprockets you need to gently apply pressure on the movable plates to seat the fibre spacer strip against the fixed plates. By making sure all three movable plates are fully meshed when you engage the respective chains you are ensuring they open and close in unison assuming have close to equal tension on the chains and sprockets are not slipping.

On each Large set of movable plates you will see a brown fibre/phenolic bar or strip that serves too maintain the plate spacing and when fully meshed that fibre is what is contacting or very close to the fixed plates. On some radios that fibre strip also serves as a mechanical stop. Old AM radio 365pf tuning capacitors comes to mind.

There is a mechanical stop collar at the front end of the drive shaft on the outboard end of the brass coupler. That collar has a long machine screw in it that contacts a screw thread extending thru the front panel. If that collar isnt adjusted correctly it is possible that the plates will not fully mesh.

Terry K9TW.

47898. Re: [TS-520_820_530_830] Re: TS 530 Band Switch

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-27 11:50:43 UTC
From: <wagstw46@...>
Topic: 47880 Message: 47898

Brian:

I forgot to mention that if you adjust the Drive control knob for full open on the movable plates (which you would not do in service) they can in fact touch the "frame" cross bar and that doesnt matter as you have to remember the rotating plates are the "frame" electrically.

The whole purpose of the rotor shaft wiper contact is to keep the rotating plates at same electrical potential as the frame. The fixed plates are suspended in the frame by fibre insulators. So the frame and rotating plates are one "plate" of the capacitor and the fixed plates are the other plate with air being the dielectric.

Expensive capacitors use low loss ceramic material like steatite supports for the fixed plates.

So you are correct the rotating plates can touch the frame at full open and that is ok. Just dont want them to be slamming against the frame and the stop collar addresses that.

Terry K9TW

-

47899. Re: [TS-520_820_530_830] Re: TS 530 Band Switch

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-27 14:34:22 UTC
From: <bsa0791@...>
Topic: 47880 Message: 47899

Thanks Terry!

Brian KB4mng

47900. Re: [TS-520_820_530_830] Re: TS 530 Band Switch

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-27 17:29:22 UTC
From: Mark Gilger
Topic: 47880 Message: 47900

You all fixed up now Brian?
Mark, WB0IQK

At 09:34 AM 2/27/2014, bsa0791@yahoo.com wrote:
>
>
>Thanks Terry!
>
>Brian KB4mng
>

47901. TS830S microphone

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-27 18:27:44 UTC
From: <simon@...>
Topic: 47901 Message: 47901

I've just joined this group after having bought a really nice 830...I've been after one for a while. It came with a fairly scabby SMC low impedance dynamic microphone.

Apparently entry the MC35S (or MC30) is the best fist mic...and of course is the one Kenwood suggested ;)

Does anyone recommend an alternative fist mic...or is there anyone with a good MC35S they are willing to part with? I'm not keen on desk mics.

Thanks, Simon

Simon, please remember to use your call sign and name when signing posts..tnx Joe-WB7UQU

47902. Re: [TS-520_820_530_830] TS830S microphone

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-27 19:40:57 UTC
From: KB1TCD
Topic: 47901 Message: 47902

Simon,

I have an MC35S I'd be willing to part with but I think shipping to the UK would be extremely
high from here in Maine.

73 de Jose Douglas, KB1TCD

47903. Re: TS 530 Band Switch

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-27 21:55:41 UTC
From: Brian Allen
Topic: 47880 Message: 47903

Good News! I finally put the rf board back in and it appears to be working great. I've got power back on all bands, the receive is much better, and 10 meters has returned!

Couple of questions.

When I change bands, where the switch settles into the indent, the radio is dead. If you advance the switch towards 10 meters slightly the band comes in. Is there a way to do an alignment on the band switch where it works with the indent on the back switch. It does this on all bands.

The plate current is reading about 7 on all bands. It may dip very slightly but not enough to use. It works fine using a watt meter but the reading on the acutal 530 meter is no help. Where do I need to start looking on that issue?

Thanks guys, Brian KB4MNG

47904. RE: New to the Forum - own a Kenwood TS-820

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-27 21:43:28 UTC
From: <sjkowak@...>
Topic: 47787 Message: 47904

Hey Mike,

Thanks for the replay. Sorry about being late getting back to you - Anyway, I very much enjoy working with the TS 820. I am glad I found this web site - has a wealth of info on it. Hope to get onto the Kenwood Net this weekend.

SteveKJR
KJ4CAR

47905. RE: TS830S microphone

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-27 21:46:27 UTC
From: <sjkowak@...>
Topic: 47901 Message: 47905

Hey Simon,

Welcome aboard. I presently own a Kenwood TS 820 and I am using a Sure 450 that works great with my rig. It uses a 4 pin connector but I would think it could be wired to be sued with the TS 830S - I am sure someone will be able to help you on that subject.

Regards

SteveKJR
KJ4CAR

47906. Re: [TS-520_820_530_830] Re: TS 530 Band Switch

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-27 22:38:51 UTC
From: Joseph Stiles
Topic: 47880 Message: 47906

Brian,

Congrats on getting it up and(somewhat) running.

The problem you are having with the "detent" is not uncommon. I will say that you have the shaft/band switch wafers slightly mis-aligned with S-22(in the final cage), that's where the "detent comes from. This usually happens when the set screws on the band switch coupler are not correctly tightened/oriented during re-installation. Does your rig still have the old nylon band switch coupler?? If so...check for cracks at the set screws...very common problem. I suggest that you find a new brass replacement one, available through several sources. Please explain more about "the plate current is only 7."

73 Joe
WB7UQU

On Thursday, February 27, 2014 1:58 PM, Brian Allen <bsa0791@...> wrote:

>Good News! I finally put the rf board back in and it appears to be working great. I've got power back on all bands, the receive is much better, and 10 meters has returned!
>
>
>Couple of questions.
>
>
>When I change bands, where the switch settles into the indent, the radio is dead. If you advance the switch towards 10 meters slightly the band comes in. Is there a way to do an alignment on the band switch where it works with the indent on the back switch. It does this on all bands.
>
>
>The plate current is reading about 7 on all bands. It may dip very slightly but not enough to use. It works fine using a watt meter but the reading on the acutal 530 meter is no help. Where do I need to start looking on that issue?
>
>
>Thanks guys,   Brian KB4MNG
>
>
>
>

47907. Re: [TS-520_820_530_830] Re: TS 530 Band Switch

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-27 23:35:35 UTC
From: <bsa0791@...>
Topic: 47880 Message: 47907

Yes, it has the nylon piece.

If you switch to IP the reading is about 7 on all bands(7 on the s meter). If you adjust for a dip, it may dip very slightly but not enough to get a reading to tune the final.
Thanks Brian KB4MNG

47908. Re: [TS-520_820_530_830] Re: TS 530 Band Switch

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-28 00:01:21 UTC
From: Joseph Stiles
Topic: 47880 Message: 47908

Brian,

Are you in the "tune" mode when you see the shallow Ip dip?

You state that you "got power back." How much power and at what Ip?

You state that the Ip is about "7" on the "S" meter..you may want to check that you are using the correct meter position..."7" on the "S" meter when meter selector is set to Ip equals about 150mA

Nominal power output should be around 100 watts at around 225-250mA or so. The mA reading may very according to the value of the final amplifier tubes cathode resistors. Watts output may be slightly lower on 10 meters.

Your driver tube, the 12BY7A, should be able to provide full ALC swing of the meter on the highest band. If not it may be in the early stages of getting tired. Tune rig up for max power.
In CW mode key rig and watch for falling drive after a few seconds of key down. If drive fall off, your driver tube is weak and going bad.

Tune up as above. Key down, watch the Ip. If it goes up to nominal value...then falls off, your
finals are going bad.

A broad, shallow Ip dip could also indicate finals that are going bad

73 Joe
WB7UQU

On Thursday, February 27, 2014 3:35 PM, "bsa0791@yahoo.com" <bsa0791@...> wrote:

>Yes, it has the nylon piece.
>
>If you switch to IP the reading is about 7 on all bands(7 on the s meter). If you adjust for a dip, it may dip very slightly but not enough to get a reading to tune the final.
Thanks Brian KB4MNG
>
>
>

47909. Re: [TS-520_820_530_830] Re: TS 530 Band Switch

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-28 02:44:10 UTC
From: W5RKL
Topic: 47880 Message: 47909

Brian,

With the 530 in transmit and tuning the transmitter final amplifier, there is no such thing as dipping S Units. Placing the meter switch to IP, keying the transmitter, the meter is displaying final tube "cathode current" on the "top scale", not "S Units"!

73
Mike W5RKL

On 2/27/2014 6:01 PM, Joseph Stiles wrote:
> Brian,
>
> Are you in the "tune" mode when you see the shallow Ip dip?
>
> You state that you "got power back." How much power and at what Ip?
>
> You state that the Ip is about "7" on the "S" meter..you may want to
> check that
> you are using the correct meter position..."7" on the "S" meter when
> meter selector
> is set to Ip equals about 150mA
>
> Nominal power output should be around 100 watts at around 225-250mA
> or so. The mA reading may very according to the value of the final
> amplifier tubes cathode resistors. Watts
> output may be slightly lower on 10 meters.
>
> Your driver tube, the 12BY7A, should be able to provide full ALC swing
> of the meter on the highest band. If not it may be in the early stages
> of getting tired. Tune rig up for max power.
> In CW mode key rig and watch for falling drive after a few seconds of
> key down. If drive fall off, your driver tube is weak and going bad.
>
> Tune up as above. Key down, watch the Ip. If it goes up to nominal
> value...then falls off, your
> finals are going bad.
>
> A broad, shallow Ip dip could also indicate finals that are going bad
>
> 73 Joe
> WB7UQU
>
>
> On Thursday, February 27, 2014 3:35 PM, "bsa0791@..."
> <bsa0791@...> wrote:

>
> Yes, it has the nylon piece.
>
> If you switch to IP the reading is about 7 on all bands(7 on the s
> meter). If you adjust for a dip, it may dip very slightly but not
> enough to get a reading to tune the final. Thanks Brian KB4MNG
>
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

47910. Re: [TS-520_820_530_830] Re: TS 530 Band Switch

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-28 12:23:15 UTC
From: <wagstw46@...>
Topic: 47880 Message: 47910

I dont recall anyone asking Brian if this "plate current dip" problem is new since he did the bandswitch repair or was it behaving this way before the repair.

He needs to do two things:

1. Align the bandswitch and perhaps replace the cracked white nylon coupler
2. Open his Operators Instruction Manual to around page 17 and READ and literally follow the procedural steps to load his TS-530. He needs to place emphasis on the NOTE that follows Step 9 and look at Table 4-1. The NOTE is there for a reason.

If he does that he will see that the dip in TUNE mode will be small. There is no reason to load any KW Hybrid using the Dip and Load method. The proper way to load a Class AB1 linear amplifier is to load for maximum RF output power without exceeding maximum plate current (265ma). This is why KW engineers provided the RF relative power meter position. If they had not intended operators to tune for Max output they would have just provided IP position and not wasted money on rf detector components.

OK to make that initial plate current dip in TUNE mode and repeat it in CW mode so you know the Tank is close to resonance and wont have to worry about overheating from long off resonance key down times. After that need to use the RF meter position and alternately adjust the Plate Load and Plate Tune capacitors for maximum RF relative power or maximum RF output power on your external wattmeter.

TABLE 4-1 just needs one last step added to it. Something like....."When done adjusting Plate Load and Plate Tune for maximum relative RF power (approx 100 watts) place the meter selector switch back to IP and make sure not exceeding 265ma." If it is then close the plates of the Plate Load cap slightly (turn CCW) and re-adjust the Plate Tune cap.

This is so simple it becomes childs play. Why make it so hard? Can be done in literally seconds and if you have external wattmeter have best of both worlds as can leave meter switch in IP and when done loading for maximum RF output can see at a glance if exceeding maximum IP.

This is not a Class C CW transmitter.

So Brian is this a new development?

Terry K9TW

47911. Re: [TS-520_820_530_830] Re: TS 530 Band Switch

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-28 19:51:10 UTC
From: <wagstw46@...>
Topic: 47880 Message: 47911

Brian:
Not saying you dont have a problem with your TS-530. Just wanted you to be loading it per the manual for starters and see how that works for you. Curious where you have the Plate Load control set at prior to loading the rig?

Before you peak the ALC indication in Tune mode and then place meter in IP and dip the plate current try this:

1. Deliberately pre-set the Plate Tune cap off of the painted white locator for the band that you are going load on. I do all test loading on 20 meters around 200 on the VFO. This is where KW does their testing and TX level diagram developments. So set the Plate Tune control for 18 or 21. Can do on other bands but give this a try.

2. Make sure the Plate Load cap is full CCW position. This places the plated fully meshed and should be the point that you see the biggest change in IP as you rotate the Plate Tune capacitor thru its range. If you pre-set the Plate Load cap to approx 1100 or so you will essentially have picked up a big junk of load immediately as you have the plates unmeshed which means lower capacitance which means much higher capacitive reactance Xc which means much more Tank circ current transferred to the dummy load and not flowing thru the Plate Load cap. This means very little dip remaining.

The point is if you pre-set the Plate Load and Plate Tune caps too precise you can have very little initial plate current dip.

I normally recommend that people start with the Plate Load cap fully CCW (plates meshed) until they get use to loading. They feel better if they can see this all important dip in plate current. Later you will learn you dont have to pay much attention to it at all. Most folks in short time are tuning/loading on the fly as they chase DX and QSY all over the band.

Terry K9TW

47912. Re: [TS-520_820_530_830] Re: TS 530 Band Switch

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-28 20:16:26 UTC
From: <wagstw46@...>
Topic: 47880 Message: 47912

OK CHUNK and not JUNK! No worry you wont make junk out of it!

Terry K9TW

47913. Kenwood Hybrid Repair Recomendation

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-01 02:35:08 UTC
From: <kmx888@...>
Topic: 47913 Message: 47913

I have a 530-S which had multiple problems.It was over my head so I looked for recommendations for repair work. I am sure that there are some fine repair shops but I chose our own reflector member Terry K9TW. I chose him based on other recommendations and the fact that he is active here helping others and seems to have a good knowledge of our radios.

After we chatted about the radio he gave me a detailed outline of his services and his prices. His prices were very reasonable his services were made crystal clear. I sent him the rig following his direction. When the rig arrived he informed me promptly and got to work. It was finished in a few days and shipped back to me. His charges were EXACTLY what he quoted me. I needed some parts which he obtained for me at very reasonable prices and even gave me a trade in allowance on one. He did not order or install parts until we had discussed it. He shipped it back to me packed like it would survive a Fed-Ex aircraft accident.

The rig has NEVER worked so well. It is clean and crisp in it's operation and I am very happy in every respect. I get better signal and audio reports that ever before.I give him a 5 Star rating in every way, I would not say that to all of you if I was not totally satisfied.
Best,
Kevin
KD0ILM/XV2KM

47914. TS-520S - Marker signal calibration issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-01 03:44:13 UTC
From: Wes Will
Topic: 47914 Message: 47914

Been working via email with one of the newer members of this list, and he is in the process (now that the thing is working at all) of re-aligning and re-peaking everything. Got to the "marker generator" section of the operator realignment and there we stick.

He puts his frequency meter on the MO point, and the marker (which is audible) gets dragged down, will not synch to be read by the freq counter, and when he pops on the o-scope it just shows really random junk. No waveforms, just static. And the marker (audible when no test leads are attached) fades out and becomes very weak if not gone. I've never seen a freq counter load a circuit that much before, honestly.

Question is, is it the counter loading it, or that the marker signal generator is so weak or so close to not being an oscillator perhaps? Is the problem the test gear (I don't think it is), or is it the marker circuits? I've never dealt with one of these rigs before getting one of my own, so I'm NOT going to more than speculate here. I'd guess the marker was weak, but as I said, that's speculation.

In the group gestalt experience, how often does a simple circuit like the marker oscillator go bad? Ever? Often? Or is this another, "I've never seen one of those go bad before in thirty years" kinds of things?

Opinions, please? Thanks.

(And anyone who happens to want to point me at disassembly instructions to get at the crystals on the oscillator coil board (X44-1160-00), that is, if the exploded drawings in the service manual aren't all there is, I'd be appreciative. Are there any 'gotchas' to getting to it? I'm not too proud to ask for help. I'd like to do it right ONCE, rather than botch it up and have to re-do it.)

--
Wes Will
N9KDY

47915. Re: TS830S microphone

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-01 06:07:11 UTC
From: rkersey tds.net
Topic: 47901 Message: 47915

Simon,

I'm far from an expert on the 830S, although I do own one which is not on the air yet. The manual states the 830S will accept both high Z and low Z microphones. The standard Kenwood matching mic (MC-50)is often touted, as are the Shures (not "Sures") of that vintage, but I would think that a lot of mics with similar frequency response would work OK. I have not seen any actual comparisons of mics. A standard CB mic would have a frequency response of about 100-5000Hz, maybe plus or minus 3dB. The Kenwood MC-50 is rated at about 100-10K Hz, but IDK the sensitivity.

If I were you, before I went on a quest for one mic that was the Holy Grail, I'd request actual user experiences and try just a generic mic and see how your listener reports go. In my case, I have a Shure desk mic, but my hearing aides would work better with a set of earphones, so I'll be trying a set of earphones with a boom mic to see how this stacks up against the Shure and speaker or Shure and a set of earphones.

A wiring diagram for the four pin connector should not be hard to come by in this august group.

Best Regards,
Roy Kersey
KI4HAG

47916. RE: Kenwood Hybrid Repair Recomendation

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-01 11:52:33 UTC
From: <wagstw46@...>
Topic: 47913 Message: 47916

Thanks Kevin. I really appreciate your endorsement.

Glad you are pleased and rig survived the perilous journey back to Arizona.

As you found out packing and shipping is not cheap but if done correctly can be safely accomplished.

Enjoy your TS530 for long time to come.

73s
Terry K9TW

47917. RE: TS-520S - Marker signal calibration issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-01 12:26:24 UTC
From: <wagstw46@...>
Topic: 47914 Message: 47917

Wes

Are you trying to do Step 12 of the TS520S service manual?

If so Counter input Z may be too low to connect to MO. With a O-scope will need to use the 10X probe and wave form will be harmonic rich and with most older Scopes is not good way to adjust the xtal trimmer. Especially if it does not directly display frequency and you are trying to count horizontal divisions and apply 1/T = Freq method.

With some freq counters that have good pre-amps you can make a "sniffer" loop to read the oscillator without loading it.

If you cannot do it with Freq counter then use 15mhz WWV signal and zero beat it. Pick a time when WWV is strong and not a lot of QSB on signal. It is not easy to get true "zero beat" or exactly 0 hz. beat note as your receiver audio response isnt that good all the way down to 0 hz. Some folks intentionally tune off freq to approx 1000 hz and try to match the Marker tone to that. I dont have that good an ear. With a good strong WWV signal and a little practice can get it pretty close.

Today with all the new DSP rigs on the air many of the net operations on the bands are spot on frequency. Maybe find one that is on even 25khz multiple and tune there for natural voice and then disconnect antenna and dont touch VFO knob and zero beat Marker signal there.

Terry K9TW

47918. RE: TS-520S - Marker signal calibration issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-01 12:50:38 UTC
From: <wagstw46@...>
Topic: 47914 Message: 47918

Wes

I forgot to mention that you may want to place AGC to Fast and use the S-meter flutter to help you not only hear but see the zero beat. Can swing VFO toward zero beat and tune through it until hear beat on the other side and then come back approx 1/2 way to as slow a S meter needle flutter you can get (split the difference). Probably best can get is approx 50 hz or so, which should be good enough.

Terry K9TW

47919. Off-Center Rx/Tx frequency Kenwood TS-530SP

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-01 12:49:25 UTC
From: <hk5jor@...>
Topic: 47919 Message: 47919

Thanks to everyone who help me with the microphone EV 638 (WA2LBI, W5RKL).
Now my question is related to the transmission and reception frequency. The other stations reported to me that I moved from the center frequency at 200Hz and I hear the other stations, above 200Hz, from the center frequency.
I am using the RIT / XIT control to momentarily solve the problem, but I want to know, how I can make an adjustment to correct the problem.
Thanks in advance.

V/R

Alberto -KK4YIT-

47920. Re: [TS-520_820_530_830] RE: Kenwood Hybrid Repair Recomendation

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-01 19:28:51 UTC
From: Wes Will
Topic: 47913 Message: 47920

On 03/01/2014 05:52 AM, wagstw46@... wrote:

> As you found out packing and shipping is not cheap but if done correctly can be safely accomplished.

But DO realize that if you UNPACK carefully you now have a pair of boxes fit to ship it in AGAIN if you ever need to.

Several times, possibly, until the Gorilla Unit in one of the shipping manglers gets down and dirty on it. Then it will have done its job, and "given that last full measure of devotion" to your rig, and you'll have to replace the boxes.

I have a shipping box for some heavy items with crushable cardboard wedge things, a LOT of packing foam, and several meters square of bubble-pack. I can ship a MOOSE in that box if I have to and expect it to arrive intact. It has paid for itself (the two boxes and the crush-wedge things alone cost me almost sixty bucks!) several times over.

So be sure to keep the boxes he sent! They're gold. Well worth the space in the attic or where-ever.

--
Wes Will
N9KDY

47921. Re: [TS-520_820_530_830] RE: TS-520S - Marker signal calibration issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-01 19:36:51 UTC
From: Wes Will
Topic: 47914 Message: 47921

On 03/01/2014 06:26 AM, wagstw46@... wrote:

YES. Bingo. THIS is why I love this group of people. THANKS, Terry,
You once again have nailed it.

I do feel rather stupid, though. The pick-up loop for some fool reason
didn't even come into my head. Which is really crazy seeing as I've
made a set of three loops, three, ten, and a hundred turns of wire, four
inch diameter, wrapped in tape to make them stiff enough to hold their
shape, for exactly this purpose.... Why it didn't occur to me to
off-load the signal via a pick-up loop .... Yep, I'm obviously getting
old in my stupid years, or maybe vice-versa.

> Wes
>
> Are you trying to do Step 12 of the TS520S service manual?
>
> If so Counter input Z may be too low to connect to MO. With a O-scope
> will need to use the 10X probe and wave form will be harmonic rich and with
> most older Scopes is not good way to adjust the xtal trimmer. Especially
> if it does not directly display frequency and you are trying to count horizontal
> divisions and apply 1/T = Freq method.
>
> With some freq counters that have good pre-amps you can make a "sniffer" loop to
> read the oscillator without loading it.
>
> If you cannot do it with Freq counter then use 15mhz WWV signal and zero beat it.
> Pick a time when WWV is strong and not a lot of QSB on signal. It is not easy to get
> true "zero beat" or exactly 0 hz. beat note as your receiver audio response isnt that
> good all the way down to 0 hz. Some folks intentionally tune off freq to approx 1000 hz
> and try to match the Marker tone to that. I dont have that good an ear. With a good
strong
> WWV signal and a little practice can get it pretty close.
>
> Today with all the new DSP rigs on the air many of the net operations on the bands are
spot on
> frequency. Maybe find one that is on even 25khz multiple and tune there for natural voice
and
> then disconnect antenna and dont touch VFO knob and zero beat Marker signal there.

> Terry K9TW

--
Wes Will
SysAdmin

47922. Re: [TS-520_820_530_830] RE: TS-520S - Marker signal calibration issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-01 20:30:50 UTC
From: Joseph Stiles
Topic: 47914 Message: 47922

Wes,

I also have tried to follow the procedure for adjusting the marker signal calibration. It did not
work for me. I used the "zero beat" method with WWV and the "wavering needle" and can come rather close and maintain "good amateur practice." People have to remember that these rig were state of the art "analog" rigs. After maybe 40 years or so..,they may be off a few hundred Hertz.

As far as removal of
the osc board:

I am going on my notes from a previously owned TS-520SE

Band switch to "JJY/WWV ...loosen screws that are facing UP
""""""""" "" "7" loosen screws that are facing UP

These screws are at the end of the band switch shaft connected to the band switch coupler

Pull knob and shaft staright out towards front of rig DO NOT ROTATE!!! My notes fail to indicate if you need to have the face plate removed...but I do not think so.

PLEASE...take pictures or make good notes...just to make sure

You should now be able to loosen and remove the two small screws towards the front of the rig that help hold stuff together. Remember that there are also a couple of small split-washers there too. You should now be able to slide the long screws towards the rear of the rig,
paying careful attention to the spacer ferrules between the different boards. You may have to
move some wires out of the way...to get some space...Also, you'll have to get your soldering iron warmed up...and some braid/solder sucker to unsolder each side of the board by the two screws that are holding the metel shield in place.

Note: this procedure is done with the rig OFF, UNPLUGGED, AND FREE OF ANY VOLTAGE(standard warning/disclaimer)
Covers removed, bottom up, front facing you.

Let me know if you may need some more info

73 Joe
WB7UQU

On Saturday, March 1, 2014 11:42 AM, Wes Will <wwill@...> wrote:

>On 03/01/2014 06:26 AM, wagstw46@... wrote:
>
>YES. Bingo. THIS is why I love this group of people. THANKS, Terry,
>You once again have nailed it.
>
>I do feel rather stupid, though. The pick-up loop for some fool reason
>didn't even come into my head. Which is really crazy seeing as I've
>made a set of three loops, three, ten, and a hundred turns of wire, four
>inch diameter, wrapped in tape to make them stiff enough to hold their
>shape, for exactly this purpose.... Why it didn't occur to me to
>off-load the signal via a pick-up loop .... Yep, I'm obviously getting
>old in my stupid years, or maybe vice-versa.
>
>> Wes
>>
>> Are you trying to do Step 12 of the TS520S service manual?
>>
>> If so Counter input Z may be too low to connect to MO. With a O-scope
>> will need to use the 10X probe and wave form will be harmonic rich and with
>> most older Scopes is not good way to adjust the xtal trimmer. Especially
>> if it does not directly display frequency and you are trying to count horizontal
>> divisions and apply 1/T = Freq method.
>>
>> With some freq counters that have good pre-amps you can make a "sniffer" loop to
>> read the oscillator without loading it.
>>
>> If you cannot do it with Freq counter then use 15mhz WWV signal and zero beat it.
>> Pick a time when WWV is strong and not a lot of QSB on signal. It is not easy to get
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>> then disconnect antenna and dont touch VFO knob and zero beat Marker signal there.
>
>> Terry K9TW
>
>--
>Wes Will
>SysAdmin
>
>
>
>

47923. Re: [TS-520_820_530_830] RE: TS-520S - Marker signal calibration issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-01 22:28:04 UTC
From: Wes Will
Topic: 47914 Message: 47923

> Let me know if you may need some more info

Thanks, Joe. That's what I needed. Had pretty much come to that procedure on my own, but the washers were news to me, thanks for the warning.

I was probably going to take off too much, starting with the face plate. I'll try your way and perhaps we'll add this one to the archives, suitably formatted and prettied up, for the next poor schmuck who has to re-crystal a CB-hacked radio.

--
Wes Will
N9KDY

47924. Re: [TS-520_820_530_830] RE: TS-520S - Marker signal calibration issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-01 22:58:26 UTC
From: Joseph Stiles
Topic: 47914 Message: 47924

Wes,

u r welcome and glad to help. I think that I did put a few pics in the "photos" section about 2 years ago regarding the 520 "CB hack," but it just shows the board already out with the offending crystals.

Look for: TS-520 OSC BOARD HACK by WB7UQU with a date of 04 Jan 11

73 Joe
WB7UQU

On Saturday, March 1, 2014 2:34 PM, Wes Will <wwill@...> wrote:

>> Let me know if you may need some more info
>
>Thanks, Joe. That's what I needed. Had pretty much come to that
>procedure on my own, but the washers were news to me, thanks for the
>warning.
>
>I was probably going to take off too much, starting with the face plate.
>I'll try your way and perhaps we'll add this one to the archives,
>suitably formatted and prettied up, for the next poor schmuck who has to
>re-crystal a CB-hacked radio.
>
>--
>Wes Will
>N9KDY
>
>
>
>

47925. Re: [TS-520_820_530_830] RE: TS-520S - Marker signal calibration issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-01 23:02:51 UTC
From: Wes Will
Topic: 47914 Message: 47925

> Look for: TS-520 OSC BOARD HACK by WB7UQU with a date of 04 Jan 11

Already saw that one, thanks. It's already out, so wasn't a lot of help getting started. I'm dealing with other things at the moment, my mother passed away about 0200 this morning, so I won't be soldering much for a few days.... Though perhaps it would be good therapy. Her passing is, shall we say, unfortunately not something myself and my brothers are actually mourning. It was that kind of deal, unfortunately. But the wheels still have to turn and we've a lot to deal with to wind up her affairs.

If I get in a bind I will get back on here, but I hope it just (for ONCE) just happens without hitches. And there will most assuredly be pictures, as well as MARKINGS on the switch and parts as they come out. I'm not in the mood for more trouble from a radio. It's just NOT on the list for this month.

--
Wes Will
N9KDY

47926. Loses drive after warm up

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-01 23:12:21 UTC
From: <wontgoquietly@...>
Topic: 47926 Message: 47926

My TS-820S has developed an issue where I lose drive after the rig has been on and warmed up for awhile.
I can obtain normal drive and tune on each band when I first turn the radio on (using the normal start up procedure), but within a few minutes (about 10 to 15 minutes) I lose all drive and output power. I still have normal idling current even after the output power goes away. The driver and final were new last year.

The covers are off, can anyone point me in a particular direction?

Tim
NT9M

47927. Re: [TS-520_820_530_830] RE: TS-520S - Marker signal calibration issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-01 23:48:15 UTC
From: Ron
Topic: 47914 Message: 47927

Sorry about ur loss Will

Ron KK4PWF

On Mar 1, 2014, at 5:02 PM, Wes Will <wwill@...> wrote:

>> Look for: TS-520 OSC BOARD HACK by WB7UQU with a date of 04 Jan 11
>
> Already saw that one, thanks. It's already out, so wasn't a lot of help
> getting started. I'm dealing with other things at the moment, my mother
> passed away about 0200 this morning, so I won't be soldering much for a
> few days.... Though perhaps it would be good therapy. Her passing is,
> shall we say, unfortunately not something myself and my brothers are
> actually mourning. It was that kind of deal, unfortunately. But the
> wheels still have to turn and we've a lot to deal with to wind up her
> affairs.
>
> If I get in a bind I will get back on here, but I hope it just (for
> ONCE) just happens without hitches. And there will most assuredly be
> pictures, as well as MARKINGS on the switch and parts as they come out.
> I'm not in the mood for more trouble from a radio. It's just NOT on
> the list for this month.
>
> --
> Wes Will
> N9KDY
>
>
> ------------------------------------
>
> Yahoo Groups Links
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>
>

47928. Re: [TS-520_820_530_830] RE: TS-520S - Marker signal calibration issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-02 00:26:34 UTC
From: Joseph Stiles
Topic: 47914 Message: 47928

Wes,

  Ok and good luck. Sorry to hear about your mom

73 Joe
WB7UQU

On Saturday, March 1, 2014 3:48 PM, Ron <bozo231@...m> wrote:

>Sorry about ur loss Will
>
>Ron KK4PWF
>
>On Mar 1, 2014, at 5:02 PM, Wes Will <wwill@...> wrote:
>
>>> Look for: TS-520 OSC BOARD HACK by WB7UQU with a date of 04 Jan 11
>>
>> Already saw that one, thanks. It's already out, so wasn't a lot of help
>> getting started. I'm dealing with other things at the moment, my mother
>> passed away about 0200 this morning, so I won't be soldering much for a
>> few days.... Though perhaps it would be good therapy. Her passing is,
>> shall we say, unfortunately not something myself and my brothers are
>> actually mourning. It was that kind of deal, unfortunately. But the
>> wheels still have to turn and we've a lot to deal with to wind up her
>> affairs.
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>> If I get in a bind I will get back on here, but I hope it just (for
>> ONCE) just happens without hitches. And there will most assuredly be
>> pictures, as well as MARKINGS on the switch and parts as they come out.
>> I'm not in the mood for more trouble from a radio. It's just NOT on
>> the list for this month.
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>> --
>> Wes Will
>> N9KDY
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47929. RE: Loses drive after warm up

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-02 15:22:01 UTC
From: <wagstw46@...>
Topic: 47926 Message: 47929

Tim:

1. Does receive stay "normal" at this time?

2. Does the display blank?

3. What test gear do you have? Can you measure RF drive voltages and DC voltages?

4. If you flip the SG switch off at this time and turn CAR Level pot full CW and flip to Send and turn Drive control thru its range do you see any ALC indication at any time on any band?

5. If Display blanks check for VCO signal at TP-1 on the RF board. Should be approx 1.0 rf volts. If Display stays on measure RF drive level at MD on RF board. Should be approx 2.0 rf volts. Need O-scope, RF millivolt meter, or VTVM and RF probe.

6. Push and pull on the Driver tube with rig keyed. Becareful and not burn yourself as heat shield will be hot. May be a bad solder connection at the tube socket. Wiggle the Molex connectors on the RF board.

Terry K9TW

47930. TS530 PLL goes unlocked.....it was working.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-02 23:22:19 UTC
From: Jan Servaites
Topic: 47930 Message: 47930

Hi guys,
It was working, and I pulled the PLL board to de-flux & clean the board in Isopropinal alcohol. Reassembled back to the 530 chassis, and it went unlocked (blank freq display). I haven't troubleshooted the PLL board yet, so I'm reading up on how it works.
Anyone have a few tips on what to check with the O-scope to start with? I'm thinking there must be some solder joints that need re-soldering or something simple like that.
Jan N8CBX

47931. Re: [TS-520_820_530_830] RE: TS-520S - Marker signal calibration issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-03 00:12:35 UTC
From: Wes Will
Topic: 47914 Message: 47931

On 03/01/2014 02:30 PM, Joseph Stiles wrote:
> Wes,
>
> I also have tried to follow the procedure for adjusting the marker signal calibration. It did not
> work for me. I used the "zero beat" method with WWV and the "wavering needle" and can come rather close and maintain "good amateur practice." People have to remember that these rig were state of the art "analog" rigs. After maybe 40 years or so..,they may be off a few hundred Hertz.
>
> As far as removal of
> the osc board:

Well, out, swapped the crystals, and back in again. That band switch is a nightmare.

For the record, as I just did it, here is the procedure to pull the oscillator board to replace the CB band crystals with the 10-meter crystals that ought to go in there:

1) UNPLUG THE RADIO FROM THE MAINS POWER. Remove antenna and key/microphone connections. Remove any ground connections.

2) Remove both top and bottom covers. Pull the speaker connector off of the speaker and tuck the speaker wire back out of the way somewhere, so the edge of the chassis doesn't nick or cut it. CAREFULLY DISCHARGE THE HIGH VOLTAGE / PA SECTION CAPACITORS. Use a chicken-stick/zap-stick whatever you call the thing.

3) You will initially be working with the radio UP-SIDE DOWN, FRONT BEZEL TOWARD YOU. Use solder-wick braid, a suction bulb, or a desoldering vacuum tool to remove all of the solder on the sides of the oscillator board. If you have a higher-wattage iron, this might be the place to use it to get the solder to flow quickly, but BE CAREFUL not to over-heat the circuit board.

4) Rotate the band switch until BOTH of the set screws are accessible, from an angle to either side of vertical. Doing one side while the switch position holds it straight up (WWV position) and then rotating it until the other one is straight up (40-meter position) is ASKING for the whole shootin' match to slip out of line, one set screw will NOT really hold the thing in place.

5) Loosen the screws in the connector sleeve which hold the front half of the shaft in place. Leave the two rear-most ones which hold the back

half of the shaft alone. You must also be EXCEEDINGLY CAREFUL NOT TO ROTATE THE BAND SWITCH SHAFT AT ALL FROM THIS POINT ON. NOW would be a good time for pictures and marking the wafers on ALL the segments to be CERTAIN they do not shift or get out of line.
6) Remove the two small screws which hold the shield behind the oscillator board. By flexing this thin metal shield VERY slightly, you will be able to pull it upward and out of the way. You -might- be able to get this done leaving this shield alone, but the extra room never hurts.

7) Remove BOTH front nuts and split washers from the long screws holding the switch wafers in line.

8) Remove the right-hand rear nut and lock washer (as you look at it from the front) on the right-hand side long bolt. Slide the solder lug off of the bolt. It is connected to the small coil adjacent to that long bolt. Remove the plastic spacer, noting which way the smaller end is located, to accomodate that solder lug. You do not have to touch the left-hand nut and washer. Best to leave it alone.

NOTE: Tools for this evolution thus far (the nuts) are going to be a bugger. You CAN use a pair of needle-nose pliers to un-screw the nuts, but it means a metric buttload of tiny little bites (about a sixteenth of a turn per movement, which gets OLD quickly). A VERY SMALL adjustable (crescent) or small open-end wrench help a lot.

9) Once the nuts and washers are off, slide the long bolts rearward, moving any wires out of the way, until the front-most spacer tubing pieces can be removed from both long bolts. Put them aside carefully. Keep sliding the bolts backwards until the second spacer tubes can be removed. STOP RIGHT THERE.

10) SLIDE THE BANDSWITCH SHAFT OUT until it clears the oscillator board. The front switch wafer will need to be slid carefully along as the bandswitch shaft moves out. Once it clears the board itself, STOP. Do not remove it all the way, just leave it sticking out, and DO NOT TURN IT AT ALL. Don't give in to the temptation to rotate it slightly or "wiggle" it side to side while withdrawing it from the wafers and boards. JUST DON'T LET IT TURN.

11) Carefully flip the radio over and locate the four wire-wrap posts which are the only things now holding the oscillator board in place. If the board has been out once already to be mangled for CB, the wires connecting the four posts to the RF board have undoubtedly been SOLDERED back on. If this is the first time or if the original modification was done by someone with a wire-wrap tool, it will be wire-wrapped. Whichever way it is, disconnect the four wires, either un-wrap or de-solder them.

12) Flip the radio back over. The board will now slide straight up into your hands.

13) The CB mod involved only crystals X7 and X8. Desolder the CB band 36.xxx MHz crystals, and replace them with the 37.xxx MHz 10-meter crystals. The lower frequency of the two is X7, the higher one is obviously therefore X8.

14) Reverse the entire procedure, slipping the board back in, resoldering the 4 wires (or re-wire-wrap them using NEW WIRES ON BOTH POSTS.) Do NOT try to re-wrap the old wire back onto the post it came from. Soldering it would be MUCH better than trying to re-use 4 cm of wire. Either wire-wrap from both posts again or solder the original wires back on.

15) Push the band switch shaft carefully BACK into all of the wafers, making sure to guide that front-most one. Remember to do this WITHOUT ROTATING ANYTHING!!! Once it is seated fully to the rear through all the wafers and into the coupler, CAREFULLY re-tighten the set screws. (If you've got a metal replacement coupler, and I recommend them highly, NOW would be the time to put that sucker on.)

16) Press the long bolts forward, back through holes in the front wafer, and put the nuts and washers back on. Don't forget to put the solder lug back on that right-rear long bolt when that goes back together. Watch which way the plastic spacer goes so as to grab the solder lug and hold it snugly. Make sure the wire from the coil isn't pinched in anything and runs nice and straight to the solder lug.

BE CAREFUL TO NOT NOT NOT OVER-TIGHTEN THE SMALL NUTS!!! Get them good and snug, enough to fully compress and flatten the lock washers, then STOP!! This is NOT the place to play He-Man and torque these nuts down hard. If you wish, once they're snug and firm, put on a TINY drop of LockTite. I did. (NOT the permanent sort!!)

16) Re-align the radio, using the procedure from the board posts or the service manual, mostly the same thing but with the occasional hint or 'trick' in the board messages to make things easier or more exact with limited equipment. (I stopped at this point, I'm planning on aligning it tomorrow, or at least getting a good start. I -did- power it up and check to see that everything worked, and that I could receive on all bands. The band switch needed a couple of full turns to excercise it and get things back in line, but once I carefully ran it full-rotation in both directions, SLOWLY, everything was fine. It was good to see "28.640" and "29.140" on the freq counter when I ran it up to those bands, instead of "27.something...")

I was right, the detailed work was good for my rather upset mind. I needed the distraction. All in all, it was very straight-forward, if requiring much pains-taking. Anyone with some patience and the crystals in hand ought to be able to do it fairly easily.

Comparatively VERY easily, if your hands work well and you aren't fighting your own arthritic fingers when getting tiny nuts and washers back on bolts in tight quarters... (Magnetized tweezers are ASSUREDLY your friend here.)

Hope this description helps someone down the line.

--
Wes Will
N9KDY

47932. RE: Loses drive after warm up

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-03 01:32:05 UTC
From: <wontgoquietly@...>
Topic: 47926 Message: 47932

Terry:
Thanks for the reply.
1. Yes, receive is not effected.
2. No, display still functions.
3. Not much, just a VOM (old Micronta analog) and an old Eico Model 221 w/demodulator probe)
4. Yes, I am, but it is very erratic. The needle is dancing up and down and does not stay put. But it is moving on all bands.
5. I'll have to see if I can take some readings tomorrow after work.
6. No noticeable effect.

Tim
NT9M

47933. RE: Loses drive after warm up

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-03 01:35:36 UTC
From: <wontgoquietly@...>
Topic: 47926 Message: 47933

Terry:
Thanks for the reply.
1. Yes, receive is not effected.
2. No, display still functions.
3. Not much, just a VOM (old Micronta analog) and an old Eico Model 221 w/demodulator probe)
4. Yes, I am, but it is very erratic. The needle is dancing up and down and does not stay put. But it is moving on all bands.
5. I'll have to see if I can take some readings tomorrow after work.
6. No noticeable effect.

Tim
NT9M

47934. Re: [TS-520_820_530_830] RE: TS-520S - Marker signal calibration issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-03 01:59:52 UTC
From: CROOKS David
Topic: 47914 Message: 47934

Well done Wes.
Nice description.
Dave f4eyk

47935. RE: Loses drive after warm up

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-03 02:10:18 UTC
From: <wagstw46@...>
Topic: 47926 Message: 47935

Tim:

Before doing anything I would pull and clean the Aux or TR relay as some call it. This is not the Antenna TR relay. The relay is socket mounted about center bottom next to two grey vertical can electrolytic filter caps.

Clean the NC and NO contacts with strips of copy paper wetted with Deoxit by pulling the wetted paper thru the contact as you apply lite pressure to the armature or movable leafs. Should see black streaks on the paper. Do this multiple times. Can also clean the antenna TR relay and swap the relays.

If that doesnt help then may be able to use the Eico VTVM and demodulator probe to take the RF drive level voltages. Would also want you to measure ALC bus voltage at RF board on Conn RF-3 Pin 6 and see if it is stable there. Cant measure it with your VOM, but may be able to measure it with your EIco VTVM. It will pull it down, but should be steady at Pin 6.

Report back after relay cleaning.

Terry K9TW

47936. Kenwood MC-50 Microphone

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-03 02:11:30 UTC
From: <johnzl1dt@...>
Topic: 47936 Message: 47936

Hi group,

I have picked up an MC-50 desk microphone from a junk sale to use with my TS-520S. Listeners say it has too much base , (I have a deep voice) . I guess putting a capacitor in the audio line would work. So has anyone done this? And what value cap did you use? Normal microphone is an MC-35S hand mike, and I get good reports.
Thanks,
John
ZL1DT

47937. Re: [TS-520_820_530_830] RE: TS-520S - Marker signal calibration issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-03 03:03:47 UTC
From: Wes Will
Topic: 47914 Message: 47937

On 03/02/2014 07:59 PM, CROOKS David wrote:
> Well done Wes.
> Nice description.
> Dave f4eyk

One of my previous assignments at the University from which I retired was writing technical documentation. Thousands and thousands of pages of technical documentation.

At least that little bit (with the missed number change at 16 and the spacing errors and all) wasn't (hand-written) in HTML....

--
Wes Will
N9KDY

47938. Re: [TS-520_820_530_830] Kenwood MC-50 Microphone

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-03 12:01:12 UTC
From: W5RKL
Topic: 47936 Message: 47938

John,

It's possible your MC-50 microphone impedance connection on the microphone is not set properly. The TS-520 has a high (50K ohms) microphone impedance requirement and the MC-50 impedance plug connection, see below, must be connected at the microphone for "High Impedance".

The cable plug from the microphone stand to the microphone AND the microphone socket both have a "RED" dot. Connect the microphone cable plug so both RED dots match which will make the MC-50 have a high impedance.

The cable plug I am referring to is NOT the cable plug that plugs into the TS-520 but rather the plug that plugs into the microphone from the microphone stand.

73
Mike W5RKL

On 3/2/2014 8:11 PM, johnzl1dt@... wrote:
>
> Hi group,
>
> I have picked up an MC-50 desk microphone from a junk sale to use with
> my TS-520S. Listeners say it has too much base , (I have a deep
> voice) . I guess putting a capacitor in the audio line would work. So
> has anyone done this? And what value cap did you use?
>
> Normal microphone is an MC-35S hand mike, and I get good reports.
>
> Thanks,
>
> John
>
> ZL1DT
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

47939. RE: TS530 PLL goes unlocked.....it was working.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-03 12:17:06 UTC
From: <wagstw46@...>
Topic: 47930 Message: 47939

Jan:

Didnt see any responses? Not sure why you are pulling and cleaning PLL board? This board as you know is on bottom of rig. It doesnt see much dust and certainly not the oily greasy dust that would cling to a board. I guess it depends on environment it has been in. Perhaps a smoker?

Much more important than cleaning KW hybrid PC boards would be detailed inspection of all Molex connectors pin soldering if you have to pull a board when troubleshooting has indicated you need to replace components on the board.

The way I inspect the pins is to reconnect the plug (I have spare wire harnesses) to seat the pins and then with brite lite and magnifier I gently rock the connector body back and forth and watch for pin movement or for circumferential crack 360 degrees around the pin. You cannot simply try to reheat these. Need to remove all old solder that did not wet to the pin, lightly file the pin to clean off the oxidation, and then resolder. Some times if the connector body has undergone many plug and unplug cycles the PC trace has cracked at the Pin pad and now you have a intermittent that is hard to find.

I dont recommend pulling boards to clean them with alcohol or any solvents when there is nothing wrong with the board. All you do is risk inducing latent fault in these old rigs. This is especially true of the PLL board that is a very reliable board.

As to your PLL unlock it sounds like you may have lost VFO input to it. I would try plugging and unplugging Molex connector 5 and measuring the VFO input. Should see approx 200mv. Can also sub the signal with RF sig gen and see if rig comes alive. Since you disturbed the PLL board most likely problem is there, but could also be dirty FIX switch or Mini-din switch in the Remote VFO socket. If not Conn 5 then exercise these switches.

Terry K9TW

47940. RE: TS530 PLL goes unlocked.....it was working.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-03 12:19:11 UTC
From: <wagstw46@...>
Topic: 47930 Message: 47940

Check Conn 6 as well.

Terry K9TW

47941. RE: [TS-520_820_530_830] RE: TS-520S - Marker signal calibration issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-03 13:38:44 UTC
From: Rick Klinge
Topic: 47914 Message: 47941

Outstanding Wes,

I'm keeping this in my reservoir of factoids!

73
Rick
AC0TT

-----Original Message-----
From: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com] On Behalf Of Wes Will
Sent: Sunday, March 02, 2014 6:13 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830] RE: TS-520S - Marker signal calibration issues

On 03/01/2014 02:30 PM, Joseph Stiles wrote:
> Wes,
>
> I also have tried to follow the procedure for adjusting the marker
> signal calibration. It did not work for me. I used the "zero beat" method with WWV and the "wavering needle" and can come rather close and maintain "good amateur practice." People have to remember that these rig were state of the art "analog" rigs. After maybe 40 years or so..,they may be off a few hundred Hertz.
>
> As far as removal of
> the osc board:

Well, out, swapped the crystals, and back in again. That band switch is a nightmare.

For the record, as I just did it, here is the procedure to pull the oscillator board to replace the CB band crystals with the 10-meter crystals that ought to go in there:

1) UNPLUG THE RADIO FROM THE MAINS POWER. Remove antenna and key/microphone connections. Remove any ground connections.

2) Remove both top and bottom covers. Pull the speaker connector off of the speaker and tuck the speaker wire back out of the way somewhere, so the edge of the chassis doesn't nick or cut it. CAREFULLY DISCHARGE THE HIGH VOLTAGE / PA SECTION CAPACITORS. Use a chicken-stick/zap-stick whatever you call the thing.

3) You will initially be working with the radio UP-SIDE DOWN, FRONT BEZEL TOWARD YOU. Use solder-wick braid, a suction bulb, or a desoldering vacuum tool to remove all of the solder on the sides of the oscillator board. If you have a higher-wattage iron, this might be the place to use it to get the solder to flow quickly, but BE CAREFUL not to over-heat the circuit board.

4) Rotate the band switch until BOTH of the set screws are accessible, from an angle to either side of vertical. Doing one side while the switch position holds it straight up (WWV position) and then rotating it until the other one is straight up (40-meter position) is ASKING for the whole shootin' match to slip out of line, one set screw will NOT really hold the thing in place.

5) Loosen the screws in the connector sleeve which hold the front half of the shaft in place. Leave the two rear-most ones which hold the back half of the shaft alone. You must also be EXCEEDINGLY CAREFUL NOT TO ROTATE THE BAND SWITCH SHAFT AT ALL FROM THIS POINT ON. NOW would be a good time for pictures and marking the wafers on ALL the segments to be CERTAIN they do not shift or get out of line.
6) Remove the two small screws which hold the shield behind the oscillator board. By flexing this thin metal shield VERY slightly, you will be able to pull it upward and out of the way. You -might- be able to get this done leaving this shield alone, but the extra room never hurts.

7) Remove BOTH front nuts and split washers from the long screws holding the switch wafers in line.

8) Remove the right-hand rear nut and lock washer (as you look at it from the front) on the right-hand side long bolt. Slide the solder lug off of the bolt. It is connected to the small coil adjacent to that long bolt. Remove the plastic spacer, noting which way the smaller end is located, to accomodate that solder lug. You do not have to touch the left-hand nut and washer. Best to leave it alone.

NOTE: Tools for this evolution thus far (the nuts) are going to be a bugger. You CAN use a pair of needle-nose pliers to un-screw the nuts, but it means a metric buttload of tiny little bites (about a sixteenth of a turn per movement, which gets OLD quickly). A VERY SMALL adjustable (crescent) or small open-end wrench help a lot.

9) Once the nuts and washers are off, slide the long bolts rearward, moving any wires out of the way, until the front-most spacer tubing pieces can be removed from both long bolts. Put them aside carefully.
Keep sliding the bolts backwards until the second spacer tubes can be removed. STOP RIGHT THERE.

10) SLIDE THE BANDSWITCH SHAFT OUT until it clears the oscillator board. The front switch wafer will need to be slid carefully along as the bandswitch shaft moves out. Once it clears the board itself, STOP.
Do not remove it all the way, just leave it sticking out, and DO NOT TURN IT AT ALL. Don't give in to the temptation to rotate it slightly or "wiggle" it side to side while withdrawing it from the wafers and boards. JUST DON'T LET IT TURN.

11) Carefully flip the radio over and locate the four wire-wrap posts which are the only things now holding the oscillator board in place. If the board has been out once already to be mangled for CB, the wires connecting the four posts to the RF board have undoubtedly been SOLDERED back on. If this is the first time or if the original modification was done by someone with a wire-wrap tool, it will be wire-wrapped.
Whichever way it is, disconnect the four wires, either un-wrap or de-solder them.

12) Flip the radio back over. The board will now slide straight up into your hands.

13) The CB mod involved only crystals X7 and X8. Desolder the CB band 36.xxx MHz crystals, and replace them with the 37.xxx MHz 10-meter crystals. The lower frequency of the two is X7, the higher one is obviously therefore X8.

14) Reverse the entire procedure, slipping the board back in, resoldering the 4 wires (or re-wire-wrap them using NEW WIRES ON BOTH
POSTS.) Do NOT try to re-wrap the old wire back onto the post it came from. Soldering it would be MUCH better than trying to re-use 4 cm of wire. Either wire-wrap from both posts again or solder the original wires back on.

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(If you've got a metal replacement coupler, and I recommend them highly, NOW would be the time to put that sucker on.)

16) Press the long bolts forward, back through holes in the front wafer, and put the nuts and washers back on. Don't forget to put the solder lug back on that right-rear long bolt when that goes back together.
Watch which way the plastic spacer goes so as to grab the solder lug and hold it snugly. Make sure the wire from the coil isn't pinched in anything and runs nice and straight to the solder lug.

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Hope this description helps someone down the line.

--
Wes Will
N9KDY

Yahoo Groups Links

47942. RE: TS530 PLL goes unlocked.....it was working.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-03 14:24:35 UTC
From: <wagstw46@...>
Topic: 47930 Message: 47942

Jan:

My response was for a TS830. Sorry I didnt notice you were working on a TS530. My counsel to check all molex pin soldering stands any time you have to pull a TS530 or TS830 PC board to replace components.

As to present condition after re-installing the board for starters I would still make sure that you have good VFO signal to the TS530 PLL board.

Terry

47943. Re: [TS-520_820_530_830] RE: TS530 PLL goes unlocked.....it was working.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-03 15:39:16 UTC
From: Jan Servaites
Topic: 47930 Message: 47943

"...check all molex pin soldering stands..."
I agree Terry, I found many broken solder joints on the molex pins in my hybrids, and before I start troubleshooting, I'm going to resolder all the PCB pads on the PLL board. I have found a lot of broken solder joints on the RF board, that gave me grief.
Jan N8CBX

wagstw46@... wrote:

>
>
> Jan:
>
>
> My response was for a TS830. Sorry I didnt notice you were working on
> a TS530. My counsel to check all molex pin soldering stands any time
> you have to pull a TS530 or TS830 PC board to replace components.
>
> As to present condition after re-installing the board for starters I
> would still make sure that you have good VFO signal to the TS530 PLL
> board.
>
> Terry
>

47944. Re: [TS-520_820_530_830] RE: TS530 PLL goes unlocked.....it was working.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-03 15:55:34 UTC
From: Mark Gilger
Topic: 47930 Message: 47944

Has anyone formulated an idea as to why are all
these broken traces starting to show up? Maybe
the board is flexing with temperature changes in
the shack, or shipment as it moves from one owner
to another. Finally after the 30-40 year life
span is starting to take it's toll?

Mark, WB0IQK

At 10:39 AM 3/3/2014, Jan Servaites wrote:
>
>
>"...check all molex pin soldering stands..."
>I agree Terry, I found many broken solder joints
>on the molex pins in my hybrids, and before I
>start troubleshooting, I'm going to resolder all
>the PCB pads on the PLL board. I have found a
>lot of broken solder joints on the RF board, that gave me grief.
>Jan N8CBX
>
><mailto:wagstw46@...>wagstw46@... wrote:
>>Â
>>
>>Jan:
>>
>>My response was for a TS830. Sorry I didnt
>>notice you were working on a TS530. My counsel
>>to check all molex pin soldering stands any
>>time you have to pull a TS530 or TS830 PC board to replace components.Â
>>
>>As to present condition after re-installing the
>>board for starters I Â would still make sure
>>that you have good VFO signal to the TS530 PLL board.Â
>>
>>TerryÂ
>

47945. Re: [TS-520_820_530_830] RE: TS530 PLL goes unlocked.....it was working.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-03 17:07:23 UTC
From: Jan Servaites
Topic: 47930 Message: 47945

Mark,
I'm noticing the solder joint problem particularly on my 530's boards
(and maybe now on the 530's PLL board), and somewhat on my 830's boards.
I resolder all the molex-PCB connections. I find some of them just like
what Terry described, as they would rock back-and-forth!
Both my 530 & 830 were dead in both RX/TX when I purchased them. They
are coming back a little at a time.
Jan N8CBX

Mark Gilger wrote:

>
>
> Has anyone formulated an idea as to why are all these broken traces
> starting to show up? Maybe the board is flexing with temperature
> changes in the shack, or shipment as it moves from one owner to
> another. Finally after the 30-40 year life span is starting to take
> it's toll?
>
> Mark, WB0IQK
>
> At 10:39 AM 3/3/2014, Jan Servaites wrote:
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>>
>> "...check all molex pin soldering stands..."
>> I agree Terry, I found many broken solder joints on the molex pins in
>> my hybrids, and before I start troubleshooting, I'm going to resolder
>> all the PCB pads on the PLL board. I have found a lot of broken
>> solder joints on the RF board, that gave me grief.
>> Jan N8CBX
>>
>> wagstw46@... <mailto:wagstw46@...> wrote:
>>
>>> ?
>>>
>>> Jan:
>>>
>>> My response was for a TS830. Sorry I didnt notice you were working
>>> on a TS530. My counsel to check all molex pin soldering stands any
>>> time you have to pull a TS530 or TS830 PC board to replace components.?
>>>
>>> As to present condition after re-installing the board for starters I
>>> ? would still make sure that you have good VFO signal to the TS530

```
>>> PLL board.?
>>>
>>> Terry?
>>
>
>
```

47946. RE: TS530 PLL goes unlocked.....it was working.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-03 16:27:54 UTC
From: <sjkowak@...>
Topic: 47930 Message: 47946

Not to dispute what you are saying about pulling the boards to clean them but there can be issues with the pin connectors. Over a period of time a thin film of oxidization builds up on the pins and and the female connector that can't be seen, and can have an affect on making a good connection. This can happen especially if a rig has been put away for a long period of time not being used and stored in an area where there are drastic temperature changes.

I recently purchased a Kenwood TS 820 that had problems because of that very reason - the led display wasn't working at all, along with the unit not transmitting fully on some of the upper frequencies. What I did was carefully remove the boards and coated the pins using a q-tip with a drop of oil on it - just enough to coat the pin not saturate it. . Did this to just about all the boards -

Once I finished turned the unit on and the led display lit up and has been working ever since. I can now transmit full power on all frequencies.

With regard to the solder joints coming apart where the pins are connected, it could be a quality control issue during the manufacturing process and maybe some of the Kenwood rigs had better quality control standards then others.

But, I will have to say after I cleaned all the terminal pins on my unit it works superbly .

SteveKJR

KJ4CAR

47947. Re: [TS-520_820_530_830] Drifting TS520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-03 17:27:04 UTC
From: timothy mcmillin
Topic: 47183 Message: 47947

Instructions for cleaning the 520s to eliminate frequency jump. I'll bring the compressed air

On Sat, Jan 25, 2014 at 6:38 PM, Mark Gilger <mgilger@brightdsl.net> wrote:

>
>
> Usually the dirty rotor/stator is noticed when the freq. shifts while
> tuning the main tuning dial. That's not to say it can't cause drift and is
> usually the first thing anyone should do before doing anything more
> drastic.
>
> If you go to the following link, you can see what it takes to clean it.
> Actually I've found you don't even need to remove the VFO from the case,
> just tilt the radio onto it's left side, Take 1 screw out of the side plate
> of the vfo, then spray the DeOxit in the rear. Then move the dial from
> 0-500 a half dozen ore more times and it's fixed. The article is for an
> 820, but it's the same for the 520.
>
> http://www.n6wk.com/kenwood/TS-820-VFO--servicing.pdf
>
> Now in some cases, like my TS-820S, I had drift that continued even after
> the cleaning so I installed a VFO stabilizer. It's now rock solid.
> Installed it in my R-820 also.
>
> You can also find the article on my web site.
>
> http://wb4hfn.com/KENWOOD/KenwoodHomePage.htm
>
> 73-'s,
> Mark
>
>
>
> At 04:19 PM 1/25/2014, you wrote:
>
>
>
> Mark,
> Here is my friend Dick's observation when he was on the other side of the
> QSO
>
> [image: []]
> I've been thinking about the drifting problem.
>

> 1. First it drifted one way,I think higher in frequency.
> 2. Initially, the drift was medium speed.
> 3. Then the drift speed increased.
> 4. Then the drift went one way, paused, and came back the other way.
> 5. The longer you tested, the faster the drift became.
> 6. Each time you hit the button to start another transmission, you were
> back on frequency and then began drifting again. Like it "rested" between
> transmissions.
>
> When I was restoring the SP-600, I read an article about drifting
> suggesting that dust collected on the rotor and stator of the main tuning
> capacitor should be carefully cleaned out. Just a thought.
>
> Bring the tubes anyway. We may learn something.
>
>
>
> On Sat, Jan 25, 2014 at 3:04 PM, Mark Gilger <mgilger@...>
> wrote:
>
>
> Drift or sudden freq. shifts?
>
> Mark, WB0IQK
>
>
> At 10:16 AM 1/25/2014, timothy mcmillin wrote:
>
>
>
> Now that you all kindly solved my TS830 loading problem for me, here is
> another puzzle for you. I also have an ancient TS520. Everything appears to
> be working fine. However, in my first QSO, the rig exhibited a drifting
> problem-in both transmitting and receiving modes. Does that suggest a
> problem with the VFO? or something else?
> Thanks,
> Tim, WA3GPU
>
>
>
>
>
>

47948. Re: [TS-520_820_530_830] Drifting TS520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-03 17:28:29 UTC
From: timothy mcmillin
Topic: 47183 Message: 47948

Lets try this again. I hate gmail

On Sat, Jan 25, 2014 at 6:38 PM, Mark Gilger <mgilger@...> wrote:

>
>
> Usually the dirty rotor/stator is noticed when the freq. shifts while
> tuning the main tuning dial. That's not to say it can't cause drift and is
> usually the first thing anyone should do before doing anything more
> drastic.
>
> If you go to the following link, you can see what it takes to clean it.
> Actually I've found you don't even need to remove the VFO from the case,
> just tilt the radio onto it's left side, Take 1 screw out of the side plate
> of the vfo, then spray the DeOxit in the rear. Then move the dial from
> 0-500 a half dozen ore more times and it's fixed. The article is for an
> 820, but it's the same for the 520.
>
> http://www.n6wk.com/kenwood/TS-820-VFO--servicing.pdf
>
> Now in some cases, like my TS-820S, I had drift that continued even after
> the cleaning so I installed a VFO stabilizer. It's now rock solid.
> Installed it in my R-820 also.
>
> You can also find the article on my web site.
>
> http://wb4hfn.com/KENWOOD/KenwoodHomePage.htm
>
> 73-'s,
> Mark
>
>
>
> At 04:19 PM 1/25/2014, you wrote:
>
>
>
> Mark,
> Here is my friend Dick's observation when he was on the other side of the
> QSO
>
> [image: []]
> I've been thinking about the drifting problem.
>
> 1. First it drifted one way,I think higher in frequency.

> 2. Initially, the drift was medium speed.
> 3. Then the drift speed increased.
> 4. Then the drift went one way, paused, and came back the other way.
> 5. The longer you tested, the faster the drift became.
> 6. Each time you hit the button to start another transmission, you were
> back on frequency and then began drifting again. Like it "rested" between
> transmissions.
>
> When I was restoring the SP-600, I read an article about drifting
> suggesting that dust collected on the rotor and stator of the main tuning
> capacitor should be carefully cleaned out. Just a thought.
>
> Bring the tubes anyway. We may learn something.
>
>
>
> On Sat, Jan 25, 2014 at 3:04 PM, Mark Gilger <mgilger@...>
> wrote:
>
>
> Drift or sudden freq. shifts?
>
> Mark, WB0IQK
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>
> At 10:16 AM 1/25/2014, timothy mcmillin wrote:
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>
>
> Now that you all kindly solved my TS830 loading problem for me, here is
> another puzzle for you. I also have an ancient TS520. Everything appears to
> be working fine. However, in my first QSO, the rig exhibited a drifting
> problem-in both transmitting and receiving modes. Does that suggest a
> problem with the VFO? or something else?
> Thanks,
> Tim, WA3GPU
>
>
>
>
>
>

47949. Wire size calculation

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-03 18:39:49 UTC
From: Mike W5RKL
Topic: 47949 Message: 47949

How many times have you found the single layer RF choke in your Hybrid that was bad, overheated and needed to be rewound but you didn't know the wire gauge? I've seen this question a few times on the group. You can easily determine the gauge of the wire by simply using the following formula.

First, you must count the number of turns on the RF choke form, take you time.

Next, you measure the length of the coil, be as accurate as you can, using a simple ruler.

Next, you use the following formula to calculate the gauge of the RF choke wire.

WG = L / T

Note:

"WG" is the unknown wire gauge
"L" is the length of the coil wound on the screw driver shaft
"T" is the number of turns

I don't have a single layer RF choke but I do have a few smaller coils, one of which I had to rewind to fix a problem in a Johnson Messenger One I was converting to 10 meters. The coil had overheated, just like some of the Hybrid final amp RF chokes have done, but I didn't know the gauge of the wire.

The coil in question had 24 turns and the coil length was 5/8".

I first converted 5/8" to a decimal, .625 (5 / 8 = .625). I then plugged the numbers into the formula as follows:

.625 / 24 = .026

or 26 gauge enamel magnet wire. I purchased some 26 gauge magnet wire and rewound the coil. The coil fit perfectly in the same space as the original coil and fixed the problem.

I obtained the information on determining wire gauge at the following link while reading up on rewinding/rolling my own power transformers.

http://ludens.cl/Electron/trafos/trafos.html

73
Mike W5RKL

47950. Re: [TS-520_820_530_830] RE: TS530 PLL goes unlocked.....it was working.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-03 18:56:54 UTC
From: <wagstw46@...>
Topic: 47930 Message: 47950

It is due primarily to this belief that you need to routinely plug and unplug and clean the connectors on the TS530 and TS830 rigs and improper pulling of the plugs off the connector body. The connectors on the 820 are different and more robust but not without jeopardy. Easy to crack a board on them.

These connectors are not meant to be frequently exercised. I see this mostly on the IF 530/830 board which is pulled more often than any board in the rig for filter selling and filter changing. I also see more cobbled up wire jumpers and bridged solder attempts at repairs on the IF board. I dont have any boards like that in my rigs and dont do that to customers radios. When I find them in customers rigs I send pictures to them and ask them what they want me to do. If I cause the failure I buy a good replacement board from Bob Mansker and install it and eat the cost.

The problem is people do not know how to pull these plugs. You cannot simply grasp and pull straight up without risking pulling the plug and mating connector body right off the board. Also you cannot rock the connector back and forth sideways very much as you pull upwards without risking cracking the trace to pad transition on the foil side of the board. The way you pull is by pulling slightly at each end of the connector body and then grasp in center and pull upward and if you apply any rocking action at all do so in the end to end plane and not side to side plane.

I commonly find molex connectors on customers rigs that I can grasp and rock side to side. If you have any of those presently on your rigs you have a potential problem that needs to be addressed. Should be very little side to side motion if all the pins have good 360 degree filet solder weld.

Terry K9TW

47951. RE: TS530 PLL goes unlocked.....it was working.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-03 19:11:59 UTC
From: <wagstw46@...>
Topic: 47930 Message: 47951

I have been doing this for 10 years plus now and more than 120 units across the bench and I have yet to fix any operational problem on a TS530 or TS830 PLL board by cleaning it with denatured alcohol or everclear or lacquer thinner or placing it in the dishwasher.

I did not say that dirty molex connectors could not be a source of intermittent problems. Any time you pull molex connectors on these boards you must be aware of the risk. Very easy to induce an immediate failure or a latent failure and the latent ones can be a pain to find. These are not heavy glass G10 boards. I have seen more than one TS820 with a cracked corner on an RF board or a cracked FIX board. Common for the 820s due to different design to be bonded and require much more force to unplug.

I understand wanting to clean oily greasy dust off the PC boards if you are restoring a rig that is a mess. You just have to go in to that with eyes wide open. Cleaning boards as a matter of routine to address operational problems in my experience very seldom results in a fix especially so with any of the bottom mounted boards.

There will always be differing opinions on this subject. Your rigs do as you want.

Terry K9TW

47952. RE: TS830S microphone

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-03 18:06:25 UTC
From: <simon@...>
Topic: 47901 Message: 47952

Thanks for your input on this. The manual does state that it will use low and high impedance mics and I currently have a Shure 414B hooked up to it. The MC50 seems to be the mic many people use but I prefer a fist mic...such as the MC35S or MC30. I'll keep an eye out for one...they do turn up occasionally.

The TS830S...and I guess the 830/520/530 too...sound great.

Personally, I prefer these old rigs...and some older tube gear...to the modern marvels.

Although I am fond of my IC7400 :)

Cheers, Simon, M5POO (sorry I forgot the callsign last time)

47953. Re: [TS-520_820_530_830] RE: TS530 PLL goes unlocked.....it was working.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-03 19:34:51 UTC
From: <wagstw46@...>
Topic: 47930 Message: 47953

Suggest you check coax jumper J1. This is a grey miniature coax that routes VFO signal to mixer Q29 in lower left hand corner of the Schematic. Without it you will lose the CON signal. I have found the center conductor at Q29 end of this short jumper not soldered more than once.

Just be very careful soldering on any of the KW hybrid boards. Very easy to lift a foil.

Two schools of thought here as well. Some say go in hot and get in and out quickly and others say dont run iron very hot and use only as much heat as needed. I tend to be in the camp of going in hot but have had bad experiences using either method. Key for the Molex connector pins is to remove all old solder and clean the pin. Once you have brite metal very easy to resolder and get it to wet to the pin. I usually do this with the plug installed so that the pin remains fully seated during the soldering.

Terry K9TW

47954. Re: [TS-520_820_530_830] Kenwood MC-50 Microphone

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-03 19:42:41 UTC
From: John
Topic: 47936 Message: 47954

Thanks Mike,
I have the microphone set for 50k ohms.
John
ZL1DT

>
> John,
>
> It's possible your MC-50 microphone impedance connection on the
> microphone is not set properly. The TS-520 has a high (50K ohms)
> >microphone impedance requirement and the MC-50 impedance plug
> connection, see below, must be connected at the microphone for >"High
> Impedance".
>
> The cable plug from the microphone stand to the microphone AND the
> microphone socket both have a "RED" dot. Connect the >microphone cable
> plug so both RED dots match which will make the MC-50 have a high
> impedance.
>
> The cable plug I am referring to is NOT the cable plug that plugs into
> the TS-520 but rather the plug that plugs into the >microphone from the
> microphone stand.
>
>
> 73
> Mike W5RKL
>
>
>
>
>
> On 3/2/2014 8:11 PM, johnzl1dt@... wrote:
>>
>> Hi group,
>>
>> I have picked up an MC-50 desk microphone from a junk sale to use with
>> my TS-520S. Listeners say it has too much >>base , (I have a deep
>> voice) . I guess putting a capacitor in the audio line would work. So
>> has anyone done this? >>And what value cap did you use?
>>
>> Normal microphone is an MC-35S hand mike, and I get good reports.
>>
>> Thanks,
>>
>> John

>>
>> ZL1DT
>
>
>>
>> This email is free from viruses and malware because avast! Antivirus
>> protection is active.

>
>

--
Using Opera's mail client: http://www.opera.com/mail/

47955. Re: [TS-520_820_530_830] Kenwood MC-50 Microphone

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-03 20:02:01 UTC
From: Ken Winterling
Topic: 47936 Message: 47955

John,

Some Ops have reduced the bass (increased the highs) of their MC-50 (and MC-60) by wrapping thin card stock around the mic element inside the mic head. Others have performed a crude implementation by placing the card/tube on the outside of the head. The internal version is preferred.

You remove the head by CAREFULLY using hot air to heat the joint between the base of the head and the top of the handle in order to melt the glue used to lock the threads. Wrap a rag around the handle while heating and periodically try to unscrew (counter clockwise) the head. DO NOT USE any type of pliers, clamps, etc. or you will damage the mic parts.

Once the head has been removed cut to size a piece of thin card stock that just wraps around the mic element without overlapping the ends of the card. Be sure the height of the card is trimmed so the head can be reassembled without crushing the card and possibly damaging the element.

Good luck!

Ken
WA2LBI

On Mon, Mar 3, 2014 at 2:42 PM, John <johnzl1dt@...> wrote:

> Thanks Mike,
> I have the microphone set for 50k ohms.
> John
> ZL1DT
>
>
>
> John,
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> It's possible your MC-50 microphone impedance connection on the microphone
> is not set properly. The TS-520 has a high (50K ohms) microphone impedance
> requirement and the MC-50 impedance plug connection, see below, must be
> connected at the microphone for "High Impedance".
>
> The cable plug from the microphone stand to the microphone AND the
> microphone socket both have a "RED" dot. Connect the microphone cable plug
> so both RED dots match which will make the MC-50 have a high impedance.
>
> The cable plug I am referring to is NOT the cable plug that plugs into the
> TS-520 but rather the plug that plugs into the microphone from the
> microphone stand.
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>
> 73
> Mike W5RKL
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> guess putting a capacitor in the audio line would work. So has anyone done
> this? And what value cap did you use?
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> Normal microphone is an MC-35S hand mike, and I get good reports.
>
> Thanks,
>
> John
>
> ZL1DT
>
>

47956. Re: [TS-520_820_530_830] Kenwood MC-50 Microphone

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-03 21:01:52 UTC
From: John
Topic: 47936 Message: 47956

Thanks Ken,
I will give that a go
John
ZL1DT

> John,
>
> Some Ops have reduced the bass (increased the highs) of their MC-50 (and
> MC-60) by wrapping thin card stock around the mic >element inside the
> mic head. Others have performed a crude implementation by placing the
> card/tube on the outside of the head. > The internal version is
> preferred.
>
> You remove the head by CAREFULLY using hot air to heat the joint between
> the base of the head and the top of the handle in order >to melt the
> glue used to lock the threads. Wrap a rag around the handle while
> heating and periodically try to unscrew (counter >clockwise) the head.
> DO NOT USE any type of pliers, clamps, etc. or you will damage the mic
> parts.
> Once the head has been removed cut to size a piece of thin card stock
> that just wraps around the mic element without >overlapping the ends of
> the card. Be sure the height of the card is trimmed so the head can be
> reassembled without crushing >the card and possibly damaging the element.
>
> Good luck!
>
> Ken
> WA2LBI
>
>
> On Mon, Mar 3, 2014 at 2:42 PM, John <johnzl1dt@...> wrote:
>> Thanks Mike,I have the microphone set for 50k ohms.
>> John
>> ZL1DT
>>
>>>
>>> John,
>>>
>>> It's possible your MC-50 microphone impedance connection on the
>>> microphone is not set properly. The >>>TS-520 has a high (50K ohms)
>>> microphone impedance requirement and the MC-50 impedance plug
>>> connection, >>>see below, must be connected at the microphone for
>>> "High Impedance".
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>>> The cable plug from the microphone stand to the microphone AND the

>>> microphone socket both have a "RED" >>>dot. Connect the microphone
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>>> high >>>impedance.
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>>> The cable plug I am referring to is NOT the cable plug that plugs into
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>>> Mike W5RKL
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>>> On 3/2/2014 8:11 PM, johnzl1dt@... wrote:
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>>>> deep voice) . I guess putting a capacitor in the audio >>>>line would
>>>> work. So has anyone done this? And what value cap did you use?
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>>>> Normal microphone is an MC-35S hand mike, and I get good reports.
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>>>> Thanks,
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>>>> John
>>>>
>>>> ZL1DT
>
>

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Using Opera's mail client: http://www.opera.com/mail/

47957. Re: [TS-520_820_530_830] Kenwood MC-50 Microphone

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-03 21:04:56 UTC
From: Mark Gilger
Topic: 47936 Message: 47957

I put one layer of electrical tape around mine,
through trial and error testing.

I closed off 1/2 of the slots, leaving the 1/2
nearest the front of the mic open. That split the
difference between highs and lows. Seems to work
ok for me. Once you get the proper amount of
slots closed off, based on your particular voice,
then you could substitute the electrical tape for
heat shrink of the correct diameter to make it look at little better.

Get a contact with someone that knows your voice,
and just keep closing off more of the slots until you are spot on.

Mark, WB0IQK

At 03:02 PM 3/3/2014, you wrote:
>
>
>John,
>
>Some Ops have reduced the bass (increased the
>highs) of their MC-50 (and MC-60) by wrapping
>thin card stock around the mic element inside
>the mic head. Others have performed a crude
>implementation by placing the card/tube on the
>outside of the head. Â The internal version is preferred.
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>You remove the head by CAREFULLY using hot air
>to heat the joint between the base of the head
>and the top of the handle in order to melt the
>glue used to lock the threads. Â Wrap a rag
>around the handle while heating and periodically
>try to unscrew (counter clockwise) the head. Â
>DO NOT USE any type of pliers, clamps, etc. or
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>Once the head has been removed cut to Â size a
>piece of thin card stock that just wraps around
>the mic element without overlapping the ends of
>the card. Â Be sure the height of the card is
>trimmed so the head can be reassembled without
>crushing the card and possibly damaging the element.
>
>Good luck!
>

>Ken
>WA2LBI
>
>
>On Mon, Mar 3, 2014 at 2:42 PM, John
><<mailto:johnzl1dt@...>johnzl1dt@...> wrote:
>Thanks Mike,Â
>I have the microphone set for 50k ohms.
>John
>ZL1DT
>
>Â
>
>John,
>
>It's possible your MC-50 microphone impedance
>connection on the microphone is not set
>properly. The TS-520 has a high (50K ohms)
>microphone impedance requirement and the MC-50
>impedance plug connection, see below, must be
>connected at the microphone for "High Impedance".
>
>The cable plug from the microphone stand to the
>microphone AND the microphone socket both have a
>"RED" dot. Connect the microphone cable plug so
>both RED dots match which will make the MC-50 have a high impedance.
>
>The cable plug I am referring to is NOT the
>cable plug that plugs into the TS-520 but rather
>the plug that plugs into the microphone from the microphone stand.
>
>
>73
>Mike W5RKL
>
>
>
>
>
>On 3/2/2014 8:11 PM, <mailto:johnzl1dt@...>johnzl1dt@... wrote:
>>Â
>>
>>Hi group,
>>
>>I have picked up an MC-50 desk microphone from
>>a junk sale to use with my TS-520S. Listeners
>>say it has too much base , (I have a deep
>>voice) . I guess putting a capacitor in the
>>audio line would work. So has anyone done this? And what value cap did you use?
>>

>>Normal microphone is an MC-35S hand mike, and I get good reports.
>>
>>Thanks,
>>
>>John
>>
>>ZL1DT
>
>
>

47958. Hybrid Net Update + Dayton Forum 2014

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-03 22:40:01 UTC
From: Mark Gilger
Topic: 47958 Message: 47958

Dayton Hamvention Kenwood Legacy Forum:
This year will be the first year for the Kenwood
Hybrid Legacy Forum to be held at the Dayton
Hamvention. The forum will be Sunday May 18th.,
room #2, 10:30 □ 11:30. The following preliminary agenda has been proposed:

```
* History of the legacy products.
* Resource help with parts, documentation, etc..
* SDR integration into the legacy line.
* Rewinding a TS-830 L41 coil.
* Tips & Hints.
* Questions and Answer Technical Session

We hope to see you there.

Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHo
mePage.htm
```

The net recently celebrated it□s 2nd year in
existence on November 1st, 2013. The yearly
check-in totals are posted at the bottom of this
message. It showed we had a 10% increase in our
Saturday check-ins and an 8% on Sunday as compared to the 2012 check-ins.

```
The Saturday 40 meter net had 20 stations
checking in under good band conditions. There
were 5 new stations checking in, W3SSF, N9JR,
KB2TOZ, VE3ZBM, and N3JDR. We had the following number of radios checking in.

2 running TS-520(x)
2 running TS-530(x)
3 running TS-820(x)
9 running TS-830S

I was running my TS-940s with an L4B amplifier.

The Sunday 20 meter net was run by Jimmy,
WB2KNR. He had 30 check-in under good band
conditions. There were 4 new check-ins, WB0CJB,
KC9WKY, N8VKX, and KD0VEP. We had the following number of radios.
```

3 running TS-520(x)
2 running TS-530(x)
4 running TS-820(x)
5 running TS-830S

Jimmy was running his TS-520.

We have been having several people checking in
regularly with their TS-430, TS-440, and
TS-940□s, which of course is not a hybrid,
although over 30+ years old. Everyone is welcome
as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a
net control station, please send me an email.
Currently it's just myself, WB2KNR and WB0SGA. I
would like to get several more. If we do, we can
alternate so everyone might be on a 3-4 week
rotation. It's a lot of fun and a good way to
make sure you station is optimized.

For anyone that has not heard, we have a new web
site that WB4HFN is hosting. He currently has a
very nice site for Drake, Collins and Heathkit
and now Kenwood Hybrids. Good quality manuals
plus sale flyers and brochures will be found
here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 □ Oct. 2012 Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins

November 2013, Saturday□s net total = 94, Sunday□s total = 85
December 2013, Saturday□s net total = 87, Sunday□s total = 103
January 2014, Saturday□s net total = 71, Sunday□s total = 82
February 2014, Saturday□s net total = 80, Sunday□s total = 85
March 2014, Saturday□s net total = 20, Sunday□s total = 16 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

47959. Re: [TS-520_820_530_830] RE: TS530 PLL goes unlocked.....it was working.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-04 11:21:13 UTC
From: <wagstw46@...>
Topic: 47930 Message: 47959

Last suggestion:

If you are missing the VCO signal at the RF board make sure that the VCO coax cable connector socket is soldered at each end. Sometimes you can confirm this is the problem by simply wiggling the connector at each end of the cable and see the display come and go.

Easy to pull the socket loose or break the solder connection when you pull this cable to remove the board for cleaning. When you pull the cable good idea to apply a small amount of deoxit to the mating surfaces of the plug and socket.

I am not sure I understand what your operational issue is. I believe it is blanked display and if so first thing I would measure is VCO signal at the RF board and at the PLL board.

Terry K9TW

47960. RE: Hybrid Net Update + Dayton Forum 2014

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-04 14:58:48 UTC
From: <wagstw46@...>
Topic: 47958 Message: 47960

Mark:

Any plans to make the power point slides available to the members who cannot attend?

Best I could do this year is Skype!

I dont know what streamed online means but maybe someone else does?

Terry K9TW

47961. Re: [TS-520_820_530_830] RE: Hybrid Net Update + Dayton Forum 2014

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-04 15:05:50 UTC
From: Mark Gilger
Topic: 47958 Message: 47961

I'll be sticking them on my site.

Mark

At 09:58 AM 3/4/2014, you wrote:
>
>
>Mark:
>
>Any plans to make the power point slides
>available to the members who cannot attend?
>
>Best I could do this year is Skype!
>
>I dont know what streamed online means but maybe someone else does?
>
>Terry K9TW
>

47962. Re: [TS-520_820_530_830] RE: Hybrid Net Update + Dayton Forum 2014

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-04 15:37:12 UTC
From: Bob Lazarow
Topic: 47958 Message: 47962

Mark: Greatly appreciated..I'm especially looking forward to the SDR presentation. Can you post a notice here when done, along with the URL?

Enjoy, wish I could be there.

Bob /WA2JAJ

On 3/4/2014 10:05 AM, Mark Gilger wrote:
>
> I'll be sticking them on my site.
>
> Mark
>
> At 09:58 AM 3/4/2014, you wrote:
>
>>
>>
>> Mark:
>>
>> Any plans to make the power point slides available to the members who
>> cannot attend?
>>
>> Best I could do this year is Skype!
>>
>> I dont know what streamed online means but maybe someone else does?
>>
>> Terry K9TW
>
>

47963. RF Boards interchangeable?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-04 17:48:31 UTC
From: <crgrbrts@...>
Topic: 47963 Message: 47963

Are the RF Boards of the TS-530S and TS-830S interchangeable in practice?

Thanks and 73,
Craig
W3CRRI

47964. Really strange 820 issue...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-04 18:40:00 UTC
From: <hanson1448@...>
Topic: 47964 Message: 47964

I have a really nice 820 with a very strange issue. The radio will work 100% with great receive/full output...and intermediately, (abt every 2 hours) just quit...everything goes dead ...just static thru the speaker, and the VFO red marker light showing on the panel. Exactly the same symptoms as if u pulled the VFO shorting plug. Now...if I remove the plug, and soak it in alcohol, and reinsert it, everything comes back to life for another two hours or so. I have tried several vfo plugs, plus a shorting wire.Also, if I substitute Deoxit 5 for rubbing alcohol, it has no effect! Only soaking the vfo plug or shorting wire in alcohol will bring the radio back.

Any ideas appreciated.
de ke1lg
Steve in Maine

47965. Re: [TS-520_820_530_830] Really strange 820 issue...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-04 18:47:08 UTC
From: Craig Roberts
Topic: 47964 Message: 47965

I had an uncle like that.

Perhaps the problem isn't with the plug but with the jack.

73,

Craig
W3CRR

47966. Re: [TS-520_820_530_830] RE: Hybrid Net Update + Dayton Forum 2014

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-04 19:51:32 UTC
From: Mark Gilger
Topic: 47958 Message: 47966

Yes, sometime after Dayton, I'll get it up there and post the link.

Mark, WB0IQK

At 10:37 AM 3/4/2014, you wrote:
>
>
>Mark: Greatly appreciated..I'm especially
>looking forward to the SDR presentation. Can you
>post a notice here when done, along with the URL?
>
>Enjoy, wish I could be there.
>
>Bob /WA2JAJ
>
>On 3/4/2014 10:05 AM, Mark Gilger wrote:
>>
>>
>>I'll be sticking them on my site.
>>
>>Mark
>>
>>At 09:58 AM 3/4/2014, you wrote:
>>>
>>>
>>>Mark:
>>>
>>>Any plans to make the power point slides
>>>available to the members who cannot attend?
>>>
>>>Best I could do this year is Skype!
>>>
>>>I dont know what streamed online means but maybe someone else does?
>>>
>>>Terry K9TW
>
>

47967. Re: [TS-520_820_530_830] Really strange 820 issue...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-04 19:53:37 UTC
From: Craig Roberts
Topic: 47964 Message: 47967

Hmmm.

Okay -- we know that DeoxIT is not conductive, so would do nothing to "bridge the gap" in an ill-fitting jack/socket mating. Alcohol MAY act as a conductor, depending upon its type and particular makeup. So, it's possible that the alcohol is is somehow filling the void in the jack -- until it evaporates. DeoxIT could perhaps help clean the jack, if corroded, but could not act as a conductive substance between the plug pins and individual jack socket(s) that has/have been damaged and gotten too loose to fit the plug.

Maybe.

Craig
W3CRR

47968. TS-830S - PA Unit Arcing Band Switch

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-04 21:45:10 UTC
From: Robert Allen
Topic: 47968 Message: 47968

Hello to All:
I have a TS-830S which I am the original owner. About two months ago, I tried to put it back on the air - not used in the xmit position for many years.

When I put it in TUNE position I did have RF output. When put in CW position, there was considerable arcing in the PA Unit band switch -looking from the end into the PA unit with fan removed - lower left and the first wafer - freq on 14 MC.

I then replaced HV caps , L1,C7 and C8. The band switch is still arcing? Not a too complicated circuit?

Any thoughts or suggestions as to what is going on ?
Thanks for any assistance
Bob W1ZX

47969. Re: [TS-520_820_530_830] TS-830S - PA Unit Arcing Band Switch

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-04 22:35:17 UTC
From: Jan Servaites
Topic: 47968 Message: 47969

Is the band switch dirty? If there's a lot of black muck that collected on the wafer contacts, it could be the problem.
Jan N8CBX

Robert Allen wrote:

>
> Hello to All:
> I have a TS-830S which I am the original owner. About two months ago,
> I tried to put it back on the air - not used in the xmit position for
> many years.
>
> When I put it in TUNE position I did have RF output. When put in CW
> position, there was considerable arcing in the PA Unit band switch
> -looking from the end into the PA unit with fan removed - lower left
> and the first wafer - freq on 14 MC.
>
> I then replaced HV caps , L1,C7 and C8. The band switch is still
> arcing? Not a too complicated circuit?
>
> Any thoughts or suggestions as to what is going on ?
> Thanks for any assistance
> Bob W1ZX
>
>

47970. RE: RF Boards interchangeable?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-04 22:38:33 UTC
From: <wagstw46@...>
Topic: 47963 Message: 47970

One big, one medium, and one little difference between the boards. Clues include RF Negative Feedback, Transverter, and RIF mixer! Which way are you proposing to swap?

Terry K9TW

47971. Re: [TS-520_820_530_830] RE: RF Boards interchangeable?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-04 23:01:58 UTC
From: Craig Roberts
Topic: 47963 Message: 47971

Thanks, Terry. I propose testing a 530 board in an 830.

Craig
W3CRR

Sent from my iPhone

On Mar 4, 2014, at 17:38, <wagstw46@...> wrote:

> One big, one medium, and one little difference between the boards. Clues include RF Negative Feedback, Transverter, and RIF mixer! Which way are you proposing to swap?
>
>
> Terry K9TW
>

47972. Re: [TS-520_820_530_830] RE: RF Boards interchangeable?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-05 01:24:13 UTC
From: <wagstw46@...>
Topic: 47963 Message: 47972

Ok---I was hoping the clues would lead you to the schematic with emphasis on the Driver tube cathode circuit.

1. Big difference = 530 board has no provision for RF negative feedback which you want to retain on the 830. However, can easily move the components over from the 830 board to the 530 board. The 530 board has the solder pads and traces for this. Need to remove a small jumper (looks like a miniature resistor) in the driver tube cathode circuit and install rf choke and the white lead wire. If you study the driver tube cathode circuit of the 830 you will see what you have to do on the 530 board to configure same as 830.

2. Medium difference = 530 board has no provision for 10 meter rf output for Transverter operation. Need to move over a molex connector and cap and resistor. Only medium if transverter operation is important to you. Otherwise no need to do anything.

3. Little difference = 530 board has a little different RIF mixer FET bias adjustment. It has no VR-1 trim pot to adjust the drain current balance by adjusting the bias resistance in the source leads. This is an enhancement in the 830 board to reduce any strong local broadcast band (BCB) leak thru in the 8.830 RIF. You should not notice any difference unless live in urban area with many high power BCB stations.

These are differences that I am aware of. May be some other small differences. If I was installing a 530 RF board into a 830 only thing I would concern myself with is transferring the components to allow RF negative feedback to function. In addition to improving SSB linearity this circuit also limits the rf voltage swing across the plate loading capacitor in presence of very high VSWR that would be encountered in an open at the SO-239 (open coax jumper etc).

What I am telling you is what I believe from circuit analysis and not what I know from experience as I have never made the swap.

Terry K9TW

47973. RE: Loses drive after warm up

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-05 01:32:58 UTC
From: <wontgoquietly@...>
Topic: 47926 Message: 47973

Terry:

Cleaned both relays and swapped them. On the first warm up I got fairly low drive for less than a minute and then it was gone. Swapped the relays back again and on second warm up I'm getting no drive at all now.
Tomorrow evening I'll try and take some measurements.

Tim
NT9M

47974. Re: [TS-520_820_530_830] RE: RF Boards interchangeable?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-05 02:30:51 UTC
From: <wagstw46@...>
Topic: 47963 Message: 47974

Craig:

I forgot to mention that the TS830 driver stage is neutralized and the TS530 is not so you will also need to move C75 cap from the foil side of the TS830 RF board and install it on the TS530 RF board before you install it in your TS830.

Driver stage RF negative feedback and neutralization components should be swapped from the 830 RF board to the 530 board.

Terry K9TW

47975. Re: [TS-520_820_530_830] RE: RF Boards interchangeable?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-05 02:31:24 UTC
From: Craig Roberts
Topic: 47963 Message: 47975

Terrific info, Terry. I have just acquired a spare 530 board and thought I'd give it a go. A cursory glance showed little difference with perfectly "do-able" mods to be made.

I will definitely install the components to provide RF negative feedback. I may also do the RIF mixer enhancement since I live precisely one mile from a 50 KW, clear channel AM BCB station. I must say, however, that despite its proximity, this station does not seem to annoy either my 530 or 830. These Kenwoods, incidentally, are the ONLY radios I have ever owned that did not require a band stop filter to cope with the nearby broadcaster.

Thanks again!

73,

Craig
W3CRR
>

47976. RE: Loses drive after warm up

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-05 02:51:07 UTC
From: <wagstw46@...>
Topic: 47926 Message: 47976

When you say low drive do you mean low ALC indication or low rf output power or both ?

Go to RF board Molex conn RF-3 and measure RF-1 Pin 3 should be approx 3.3vdc. Then measure Pin 6 ALC should be approx 2.6vdc or so with a 11 meg VTVM or 10 meg DMM.

Go to IF board Molex conn IF-3 and measure AGL Pin 6 should be approx 2.6vdc (same as what you measured at RF board). This is the ALC bus voltage switched by the aux relay that you just cleaned and swapped.

If ALC bus voltage is missing at IF board and you have a dc bench supply or couple or 1.5vdc flashlite batteries connect 3.0vdc to AGL and see if TX comes alive. 3vdc source should produce TIF amp output and drive the TX Mixer. With low Z 3vdc applied wont get any ALC indication but should get full RF output.

Terry K9TW

47977. RE: [TS-520_820_530_830] TS-830S - PA Unit Arcing Band Switch

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-05 04:54:54 UTC
From: fpath fpath
Topic: 47968 Message: 47977

Bob,

Best to open and discharge HV system then remove PA cover, you could have a critter or a build up of dust and moisture. Give the PA a good clean out and see if you can locate any carbon marks and work from there

73s

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: jservaites@...
Date: Tue, 4 Mar 2014 17:35:17 -0500
Subject: Re: [TS-520_820_530_830] TS-830S - PA Unit Arcing Band Switch

Is the band switch dirty? If there's a lot of black muck that collected on the wafer contacts, it could be the problem.
Jan N8CBX

Robert Allen wrote:

Hello to All:
I have a TS-830S which I am the original owner. About two months ago, I tried to put it back on the air - not used in the xmit position for many years.

When I put it in TUNE position I did have RF output. When put in CW position, there was considerable arcing in the PA Unit band switch -looking from the end into the PA unit with fan removed - lower left and the first wafer - freq on 14 MC.

I then replaced HV caps , L1,C7 and C8. The band switch is still arcing? Not a too complicated circuit?

Any thoughts or suggestions as to what is going on ?
Thanks for any assistance
Bob W1ZX

47978. Digital modes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-05 03:31:35 UTC
From: <dcurry@...>
Topic: 47978 Message: 47978

Hello, again.

On my 'other' TS-520, I would like to work digital modes. While I was in the Army, I was a 'Rat Rig' operator, running encrypted text and phone through a rig pushing 10KW (How i wish I had THAT setup, for the hobby!).

I have been successful with running the audio out of the radio, from the external speaker port to read the messages sent. I have successfully made one QSO by holding the mic near the speakers of the laptop when transmitting.

What is the best (bang for buck) interface to automate (and silence) this connection?

Thanks

Daniel/KK4SWX

47979. TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-05 03:46:15 UTC
From: <dcurry@...>
Topic: 47979 Message: 47979

Greetings, all!

I'm a new Ham, though I've been around the hobby most all my life, due to my father being a Ham.
I have a TS-520 (no S or SE) that does not xmit, though it does receive.
Where do I start the troubleshooting on this, without an O'scope?

Thanks

Daniel/KK4SWX

47980. Re: [TS-520_820_530_830] Digital modes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-05 07:24:45 UTC
From: Wes Will
Topic: 47978 Message: 47980

On 03/04/2014 09:31 PM, dcurry@... wrote:
> What is the best (bang for buck) interface to automate (and silence) this connection?

Well, Daniel, the "bang" I got from a simple phone plug going from the phone patch out plug on the back of my 520SE to the microphone input jack on my Linux laptop, and a free open-source Morse and PSK tone decoder was pretty substantial.... Hand-keyed Morse all the way up to machine-generated. All the tone-based packet modes, too.

It's only 8 ohms out, so a matching transformer might be a good idea, depending on whether your computer sound card can handle input at that level. I had to attenuate almost to the lowest setting with the software volume controls in the operating system control panel, but it worked right out of the starting gate once I trimmed the signal levels down low enough.

The first program I tried had problems with the SLOW end of CW. Speeds below about 15 wpm weren't reliably decoded. Above that, though, it was flawless when the signal was good enough.

With a relay or an electronic switch in between the laptop and the rig to key it, I could add another short cable and -send- morse, too, with the same software. Probably cost me about ten bucks to build the interface, more or less, depending on how hard I scavenged the junkbox at home for the bits. A telephone modem (like we used to use for internet access) will output all the proper tones, if your sound card won't deal with them by itself. Most sound cards do, these days....

All kinds of possibilities abound. Even with old hybrid rigs, all you need do is bear in mind the signal levels you need for inputs, and what you have available as outputs (and where), and buffer or moderate between them. Audio signal transformers can be cabbaged out of old AM radios, and the like, for instance. Or you can buy them new if you're not limited in funds.

Here's a web site, even has the Kenwood 8-pin mike connections for the example schematic:

http://wa8lmf.net/ham/tonekeyer.htm

There are loads of other sites that have similar information. Have fun, you'll be amazed at what you can get these old machines to do, with a computer to help out. (I'm also planning on interfacing a "Midnight Design Solutions" Micro-908 antenna analyzer (N2APB is the designer) with the digital signal processing board to my 520SE as an external VFO as well as all the packet and other data modes. With that little marvel I won't even need the computer, it does it all by itself. But I -can-

put the computer on there as well for even more features. If you can find a Micro-908, GRAB IT. They're fantastic!

--
Wes Will
N9KDY

47981. Re: [TS-520_820_530_830] Digital modes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-05 11:51:28 UTC
From: Craig Roberts
Topic: 47978 Message: 47981

I use a Tigertronics SignaLink USB interface with my TS-530S and TS-830S for RTTY, PSK-31, Feld Hell, JT-65, SSTV, etc. It works beautifully.

73,

Craig
W3CRR

47982. RE: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-05 13:15:47 UTC
From: <tjb813@...>
Topic: 47979 Message: 47982

First and most simple, check the screen voltage slide switch on the back corner of the radio. Make sure its on.
KD8CN

47983. Wire wrap

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-05 13:20:34 UTC
From: <bsa0791@...>
Topic: 47983 Message: 47983

I found a couple of the ground wire wrapped terminals on the circuit board in 530 soldered. Did any of these wire wrapped post come soldered from the factory or is it an indication of a repair?

Thanks Brian KB4MNG

47984. RE: [TS-520_820_530_830] TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-05 13:24:09 UTC
From: Rick Klinge
Topic: 47979 Message: 47984

Welcome Daniel to the wonderful world of ham radio!

Make sure the “SG” (screen grid) on the back of the rig is ON. This switch is used when neutralizing a new set of finals too. The “H SW” in the front also has to be ON. (heater).

There could be many reasons for no TX. Some include faulty 6146 output tubes or even a faulty 12BY7 tube, the 82pf 3Kv capacitor in the final could be burnt out, the TX relay, etc. If No ACC there could be no plate current and maybe a bad transistor in the IF unit x48-1060, Q2 I think.

Looking at note I see also that R70 and/or R71 in the RF unit could be bad or even R5 in the rectifier unit.

So many possibilities.. have you tried K4EAA’s tune-up procedures?

<http://www.k4eaa.com/tune-up.htm> http://www.k4eaa.com/tune-up.htm

73,

Rick

AC0TT

From: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com] On Behalf Of dcurry@...
Sent: Tuesday, March 04, 2014 9:46 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: [TS-520_820_530_830] TS-520 does not xmit

Greetings, all!

I'm a new Ham, though I've been around the hobby most all my life, due to my father being a Ham.
I have a TS-520 (no S or SE) that does not xmit, though it does receive.
Where do I start the troubleshooting on this, without an O'scope?

Thanks

Daniel/KK4SWX

47985. Re: [TS-520_820_530_830] Digital modes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-05 14:53:37 UTC
From: K5MYJ
Topic: 47978 Message: 47985

The main thing you want to do is to break the ground between the radio and the computer.

I run RTTY on my Benton Harbor S-Line Twins. I rewired a Heathkit phone patch just as straight transformers. It works very well.

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"
----- Original Message -----
From: Wes Will
To: TS-520_820_530_830@yahoogroups.com
Sent: Tuesday, March 04, 2014 11:24 PM
Subject: Re: [TS-520_820_530_830] Digital modes

On 03/04/2014 09:31 PM, dcurry@... wrote:
> What is the best (bang for buck) interface to automate (and silence) this connection?

Well, Daniel, the "bang" I got from a simple phone plug going from the phone patch out plug on the back of my 520SE to the microphone input jack on my Linux laptop, and a free open-source Morse and PSK tone decoder was pretty substantial.... Hand-keyed Morse all the way up to machine-generated. All the tone-based packet modes, too.

It's only 8 ohms out, so a matching transformer might be a good idea, depending on whether your computer sound card can handle input at that level. I had to attenuate almost to the lowest setting with the software volume controls in the operating system control panel, but it worked right out of the starting gate once I trimmed the signal levels down low enough.

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With a relay or an electronic switch in between the laptop and the rig to key it, I could add another short cable and -send- morse, too, with the same software. Probably cost me about ten bucks to build the interface, more or less, depending on how hard I scavenged the junkbox at home for the bits. A telephone modem (like we used to use for internet access) will output all the proper tones, if your sound card won't deal with them by itself. Most sound cards do, these days....

All kinds of possibilities abound. Even with old hybrid rigs, all you need do is bear in mind the signal levels you need for inputs, and what you have available as outputs (and where), and buffer or moderate between them. Audio signal transformers can be cabbaged out of old AM

radios, and the like, for instance. Or you can buy them new if you're not limited in funds.

Here's a web site, even has the Kenwood 8-pin mike connections for the example schematic:

http://wa8lmf.net/ham/tonekeyer.htm

There are loads of other sites that have similar information. Have fun, you'll be amazed at what you can get these old machines to do, with a computer to help out. (I'm also planning on interfacing a "Midnight Design Solutions" Micro-908 antenna analyzer (N2APB is the designer) with the digital signal processing board to my 520SE as an external VFO as well as all the packet and other data modes. With that little marvel I won't even need the computer, it does it all by itself. But I -can- put the computer on there as well for even more features. If you can find a Micro-908, GRAB IT. They're fantastic!

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Wes Will
N9KDY

47986. Re: [TS-520_820_530_830] RE: TS530 PLL goes unlocked.....it was working.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-05 14:58:28 UTC
From: Jan Servaites
Topic: 47930 Message: 47986

Terry,
Yeah, I have a good VFO signal to the PLL board as indicated on my O-scope.
However, I got distracted on another radio that I just picked up, and
put the 530 aside for a few days.
Thanks for everything, Terry.
Best regards
Jan N8CBX

wagstw46@... wrote:

>
>
> Last suggestion:
>
>
> If you are missing the VCO signal at the RF board make sure that the
> VCO coax cable connector socket is soldered at each end. Sometimes you
> can confirm this is the problem by simply wiggling the connector at
> each end of the cable and see the display come and go.
>
> Easy to pull the socket loose or break the solder connection when you
> pull this cable to remove the board for cleaning. When you pull the
> cable good idea to apply a small amount of deoxit to the mating
> surfaces of the plug and socket.
>
> I am not sure I understand what your operational issue is. I believe
> it is blanked display and if so first thing I would measure is VCO
> signal at the RF board and at the PLL board.
>
> Terry K9TW
>

47987. Re: [TS-520_820_530_830] Digital modes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-05 15:14:34 UTC
From: Gordon JC Pearce
Topic: 47978 Message: 47987

On Wed, Mar 05, 2014 at 06:53:37AM -0800, K5MYJ wrote:
> The main thing you want to do is to break the ground between the radio and the computer.

I don't bother with an isolation transformer, and just use my laptop.

Can't get much more floating than that.

--
Gordonjcp MM0YEQ

47988. Re: [TS-520_820_530_830] Digital modes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-05 15:27:57 UTC
From: Mike W5RKL
Topic: 47978 Message: 47988

Yes and there are plenty of websites that show how to build a "simple" sound card interface for CW, PSK, RTTY, and other so called "digital modes".

A simple sound card interface can be used for CW, PSK, RTTY, and other digital modes. The transceiver can be keyed (CW mode) using a simple transistor or opto isolator keying circuit, very easy to add to a sound card interface.

Connections to the radio and the computer's sound card can be accomplished using simple audio shielded cables. You don't need to spend a lot of money on expensive shielded cables, you won't notice any difference if you use $10 shielded cables verses $2 shielded cables, or you can make them yourself or use/buy the cheap ones found in the DVR/VCR box or at Walmart or Radio Shack.

Try using your favorite search engine to search for and find simple sound card interface circuits you can build that won't cost you an arm and a leg, most likely can be built for less than $15!!

If building a simple sound card interface is not your cup of tea then you can buy one pre-built from MFJ, SignaLink, or Rig Blaster. They typically come with instructions that you SHOULD/MUST READ before attempting to connect and operate the interface, as well as the necessary cables to make the connections between your radio and computer's sound card.

73
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On 3/5/2014 8:53 AM, K5MYJ wrote:
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> ----- Original Message -----
> *From:* Wes Will <mailto:wwill@...>
> *To:* TS-520_820_530_830@yahoogroups.com

> <mailto:TS-520_820_530_830@yahoogroups.com>
> *Sent:* Tuesday, March 04, 2014 11:24 PM
> *Subject:* Re: [TS-520_820_530_830] Digital modes
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> Wes Will
> N9KDY
>
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47989. Re: [TS-520_820_530_830] Digital modes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-05 15:41:42 UTC
From: K5MYJ
Topic: 47978 Message: 47989

Did Kenwood make a phone patch for the hybrids?

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"
----- Original Message -----
From: Mike W5RKL
To: TS-520_820_530_830@yahoogroups.com
Sent: Wednesday, March 05, 2014 7:27 AM
Subject: Re: [TS-520_820_530_830] Digital modes

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Sent: Tuesday, March 04, 2014 11:24 PM
Subject: Re: [TS-520_820_530_830] Digital modes

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Wes Will
N9KDY

47990. Re: [TS-520_820_530_830] Digital modes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-05 15:45:51 UTC
From: Ken Winterling
Topic: 47978 Message: 47990

Bob,

Kenwood made the PC-1 (4 pin mic) and the PC-1A (8 pin mic). They are identical except for the mic connectors. A web search will turn up the pictures, manuals, and schematics.

Ken
WA2LBI

On Wed, Mar 5, 2014 at 10:41 AM, K5MYJ <macklinbob@...> wrote:

>
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>
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> K5MYJ
> Seattle, Wa.
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> ----- Original Message -----
> *From:* Mike W5RKL <w5rkl@...>
> *To:* TS-520_820_530_830@yahoogroups.com
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47991. Re: [TS-520_820_530_830] RE: TS530 PLL goes unlocked.....it was working.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-05 15:47:31 UTC
From: <wagstw46@...>
Topic: 47930 Message: 47991

OK loss of VFO input is common problem and easy to have happen after removing the PLL board or cycling the molex connectors to the board.

When or if you need to come back again maybe refresh all of us as to the problem and how it manifests itself. These problems all start to run together. We all like to hear the fix and learn from it.

Fortunately the TS530 and TS830 PLL boards are pretty reliable and previous owners dont often apply golden screwdriver to them. Unlike the RF and IF boards which see lots of "tweaking".

73s
Terry K9TW

47992. Re: [TS-520_820_530_830] Digital modes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-05 15:50:27 UTC
From: Mike W5RKL
Topic: 47978 Message: 47992

Yes they did Bob, it's the "PC-1A". The schematic indicates it can be easily used as a sound card interface with a few changes.

http://www.kg6haf.com/downloads/PC1A_Phone_Patch.pdf

There's a Kenwood PC-1A being sold on eBay right now with a Buy It Now price of $39.99, "Free standard shipping".

http://www.ebay.com/itm/like/161196993756?lpid=82

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Mike W5RKL

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> *To:* TS-520_820_530_830@yahoogroups.com
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47993. Re: [TS-520_820_530_830] Digital modes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-05 15:55:15 UTC
From: Mike W5RKL
Topic: 47978 Message: 47993

Thanks Ken for the update on the PC-1 and PC-1A. It wouldn't require
much work to modify the PC-1 or PC-1A to be used as a sound card interface.

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Mike W5RKL

On 3/5/2014 9:45 AM, Ken Winterling wrote:
> Bob,
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> Kenwood made the PC-1 (4 pin mic) and the PC-1A (8 pin mic). ? They
> are identical except for the mic connectors. ? A web search will turn
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> WA2LBI
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> On Wed, Mar 5, 2014 at 10:41 AM, K5MYJ <macklinbob@...
> <mailto:macklinbob@...>> wrote:
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> Bob Macklin
> K5MYJ
> Seattle, Wa.
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> ----- Original Message -----
> *From:* Mike W5RKL <mailto:w5rkl@...>
> *To:* TS-520_820_530_830@yahoogroups.com
> <mailto:TS-520_820_530_830@yahoogroups.com>
> *Sent:* Wednesday, March 05, 2014 7:27 AM
> *Subject:* Re: [TS-520_820_530_830] Digital modes
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>> *From:* Wes Will <mailto:wwill@...>
>> *To:* TS-520_820_530_830@yahoogroups.com
>> <mailto:TS-520_820_530_830@yahoogroups.com>
>> *Sent:* Tuesday, March 04, 2014 11:24 PM

>> *Subject:* Re: [TS-520_820_530_830] Digital modes
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47994. RE: Wire wrap

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-05 15:56:23 UTC
From: <wagstw46@...>
Topic: 47983 Message: 47994

No KW factory did not solder any of the wire wraps.

Wire wrap is a very old and reliable termination method. If done correctly never a reason to solder. The soft copper actually deforms against the sharp edges of the hardened post and oxide coating is broken and very high contact pressure is developed and typical contact resistance is < 1.0 milliohms. The wraps are actually gas tight so connections are good for 40 plus years. Navy avionics did a lot of testing on this type of termination. Can find some interesting white papers on this subject.

When you remove a wire wrap must cut off all the old wire from the lead and not attempt to re-use it in any manner as it has work hardened. You can strip back and rewrap with proper size hand tool available from Jonard and Cooper and others, but I just file the post to brite metal and make couple of wraps near top and tack solder the lead back on. .

Terry K9TW

47995. Re: [TS-520_820_530_830] Digital modes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-05 16:00:56 UTC
From: Ken Winterling
Topic: 47978 Message: 47995

AND - they would look good along side the hybrids!

Ken
WA2LBI

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47996. Re: Wire wrap

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-05 16:08:38 UTC
From: Brian Allen
Topic: 47983 Message: 47996

Amazing, I never would have thought they would be that reliable.

Thanks ! Brian

47997. Re: [TS-520_820_530_830] Digital modes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-05 16:18:20 UTC
From: K5MYJ
Topic: 47978 Message: 47997

I just bought it!

But I will destroy is since phone patches are seldom used anymore.

I have a TS-520 which does not have a phone patch interface. But if I remember correctly the TS-520S does have a phone patch interface.

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N9KDY

47998. RE: [TS-520_820_530_830] TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-05 16:21:06 UTC
From: <wagstw46@...>
Topic: 47979 Message: 47998

"82 pf 3kv capacitor"?? If you are talking about RF drive inter-stage coupling cap, this is a Kenwood Hybrid and not a Yaesu FT-101.
R70/R71 are driver tube screen grid divider resistors. They very seldom fail. When they do it is usually due to radio having been "hot rodded" by CB owner.

Q2 is the TIF amp and very rare for it to fail.

At this point we could make a list of 100 possible failures. There is a difference between "eperiential based" troubleshooting and "easter egging/shot-gunning" and just plain guessing. Nothing wrong with model specific "experiential based" approach but long way from sharing those things.

The "operator error" stuff you initially pointed out is very good place to start. Once we find out the SG switch and Heaters are on can then ask some more clarifying questions.

Terry K9TW

47999. Re: [TS-520_820_530_830] Digital modes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-05 17:06:46 UTC
From: Mike W5RKL
Topic: 47978 Message: 47999

Actually the PHONE PATCH IN and PHONE PATCH OUT sockets are on the TS-520S and TS-520SE, not the TS-520.

The PHONE PATCH IN connects to the GENERATOR UNIT's "PCH" terminal then through R10 (100K) to the negative terminal of C14 (1ufd 25VDC) capacitor. All this does is bypass resistors R7, R8 that connect to pin 1 of the microphone socket. The resistive voltage divider of R9 (10K) and R10 (100K) simply reduces the audio level that's applied to the base of Q3 through C14 on the GENERATOR UNIT board.

The PHONE PATCH OUT connects to the AF UNIT's "SP" terminal, same as the speaker.

There's no isolation on either PHONE PATCH IN/OUT sockets.

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>>> depending on whether your computer sound card can
>>> handle input at that
>>> level. I had to attenuate almost to the lowest
>>> setting with the
>>> software volume controls in the operating system
>>> control panel, but it
>>> worked right out of the starting gate once I trimmed
>>> the signal levels
>>> down low enough.
>>>
>>> The first program I tried had problems with the SLOW
>>> end of CW. Speeds
>>> below about 15 wpm weren't reliably decoded. Above
>>> that, though, it was
>>> flawless when the signal was good enough.
>>>
>>> With a relay or an electronic switch in between the
>>> laptop and the rig
>>> to key it, I could add another short cable and
>>> -send- morse, too, with
>>> the same software. Probably cost me about ten bucks
>>> to build the
>>> interface, more or less, depending on how hard I
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>>> at home for the bits. A telephone modem (like we
>>> used to use for
>>> internet access) will output all the proper tones,
>>> if your sound card
>>> won't deal with them by itself. Most sound cards do,
>>> these days....
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>>> All kinds of possibilities abound. Even with old
>>> hybrid rigs, all you
>>> need do is bear in mind the signal levels you need
>>> for inputs, and what
>>> you have available as outputs (and where), and
>>> buffer or moderate
>>> between them. Audio signal transformers can be

>>> cabbaged out of old AM
>>> radios, and the like, for instance. Or you can buy
>>> them new if you're
>>> not limited in funds.
>>>
>>> Here's a web site, even has the Kenwood 8-pin mike
>>> connections for the
>>> example schematic:
>>>
>>> http://wa8lmf.net/ham/tonekeyer.htm
>>>
>>> There are loads of other sites that have similar
>>> information. Have fun,
>>> you'll be amazed at what you can get these old
>>> machines to do, with a
>>> computer to help out. (I'm also planning on
>>> interfacing a "Midnight
>>> Design Solutions" Micro-908 antenna analyzer (N2APB
>>> is the designer)
>>> with the digital signal processing board to my 520SE
>>> as an external VFO
>>> as well as all the packet and other data modes. With
>>> that little marvel
>>> I won't even need the computer, it does it all by
>>> itself. But I -can-
>>> put the computer on there as well for even more
>>> features. If you can
>>> find a Micro-908, GRAB IT. They're fantastic!
>>>
>>> --
>>> Wes Will
>>> N9KDY
>>>
>>
>
>

48000. Re: [TS-520_820_530_830] Digital modes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-05 16:46:56 UTC
From: Daniel Curry
Topic: 47978 Message: 48000

Ken,

Thanks for the info, but I do not understand what a 'phone patch' will do for me?

I've been looking for a way to actually key the radio from the computer. What what I have seen, so far, that usually requires the serial port on the computer to toggle a relay of some kind, which then keys up the radio for the soundcard output to be fed into the mic audio.

Or am I mis-understanding how this is supposed to work?

Daniel/KK4SWX

this post "trimmed/edited" as it contained already posted material - Joe-WB7UQU

48001. Re: [TS-520_820_530_830] TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-05 16:49:17 UTC
From: Daniel Curry
Topic: 47979 Message: 48001

Thank you all for the info on starting the troubleshooting of this rig. I will take the suggestions and report back, probably after the weekend.

Thanks, again.

Daniel/KK4SWX

This post "trimmed/edited" as it contained already posted material- Joe- WB7UQU

48002. Re: [TS-520_820_530_830] Digital modes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-05 16:54:51 UTC
From: Daniel Curry
Topic: 47978 Message: 48002

Bob,

I have a DG-5 I would like to add to either of these TS-520's I have. I have been told the DK-5 or DK-520 kits very difficult to come by, these days. I've also been told that same mod/kit can be used for panoramic views of the band. A very helpful addendum to anyone seeking digital signals that may be too low to be heard by the human ear.

If you come across a source for these, please let me know.

Thanks,

Daniel

this post "trimmed/edited" as it contained already posted material-Joe - WB7UQU
it is not necessary to include all prior posts in a response or new post. TNX!

48003. Re: [TS-520_820_530_830] Digital modes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-05 18:15:50 UTC
From: K5MYJ
Topic: 47978 Message: 48003

You can use the phone patch to make the transformer coupled interface. But it does require rewiring the phone patch.

With my Benton Harbor S-Line Twins the transmitter is keyed by the VOX. I am hoping this will work also with the TS-520.

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"
----- Original Message -----
From: Daniel Curry
To: TS-520_820_530_830@yahoogroups.com
Sent: Wednesday, March 05, 2014 8:46 AM
Subject: Re: [TS-520_820_530_830] Digital modes

Ken,

Thanks for the info, but I do not understand what a 'phone patch' will do for me?

I've been looking for a way to actually key the radio from the computer. What what I have seen, so far, that usually requires the serial port on the computer to toggle a relay of some kind, which then keys up the radio for the soundcard output to be fed into the mic audio.

Or am I mis-understanding how this is supposed to work?

Daniel/KK4SWX

this post "trimmed/edited" as it contained already posted material - Joe-WB7UQU

48004. Re: [TS-520_820_530_830] Digital modes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-05 18:19:42 UTC
From: K5MYJ
Topic: 47978 Message: 48004

Daniel,

I have the documentation on the mod kit for the TS-520/DG-5 interface. I have been thinking about making PCB for this mod.

But I do not have a DG-5. I have been thinking about a DG-5 clone. I thought someone was trying to do this but I have not seen it.

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"
----- Original Message -----
From: Daniel Curry
To: TS-520_820_530_830@yahoogroups.com
Sent: Wednesday, March 05, 2014 8:54 AM
Subject: Re: [TS-520_820_530_830] Digital modes

Bob,

I have a DG-5 I would like to add to either of these TS-520's I have. I have been told the DK-5 or DK-520 kits very difficult to come by, these days. I've also been told that same mod/kit can be used for panoramic views of the band. A very helpful addendum to anyone seeking digital signals that may be too low to be heard by the human ear.

If you come across a source for these, please let me know.

Thanks,

Daniel

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48005. Re: [TS-520_820_530_830] Digital modes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-05 19:38:22 UTC
From: K5MYJ
Topic: 47978 Message: 48005

I assume the only difference between the PC-1 and PC-1A is the mic connector.

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"
----- Original Message -----
From: Mike W5RKL
To: TS-520_820_530_830@yahoogroups.com
Sent: Wednesday, March 05, 2014 7:50 AM
Subject: Re: [TS-520_820_530_830] Digital modes

Yes they did Bob, it's the "PC-1A". The schematic indicates it can be easily used as a sound card interface with a few changes.

http://www.kg6haf.com/downloads/PC1A_Phone_Patch.pdf

There's a Kenwood PC-1A being sold on eBay right now with a Buy It Now price of $39.99, "Free standard shipping".

http://www.ebay.com/itm/like/161196993756?lpid=82

73
Mike W5RKL

On 3/5/2014 9:41 AM, K5MYJ wrote:

Did Kenwood make a phone patch for the hybrids?

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"
----- Original Message -----
From: Mike W5RKL
To: TS-520_820_530_830@yahoogroups.com
Sent: Wednesday, March 05, 2014 7:27 AM
Subject: Re: [TS-520_820_530_830] Digital modes

Yes and there are plenty of websites that show how to build a "simple" sound card interface for CW, PSK, RTTY, and other so called "digital modes".

A simple sound card interface can be used for CW, PSK, RTTY, and other digital modes. The transceiver can be keyed (CW mode) using a simple transistor or opto isolator keying circuit, very easy to add to a sound card interface.

Connections to the radio and the computer's sound card can be accomplished using simple audio shielded cables. You don't need to spend a lot of money on expensive shielded cables,

you won't notice any difference if you use $10 shielded cables verses $2 shielded cables, or you can make them yourself or use/buy the cheap ones found in the DVR/VCR box or at Walmart or Radio Shack.

Try using your favorite search engine to search for and find simple sound card interface circuits you can build that won't cost you an arm and a leg, most likely can be built for less than $15!!

If building a simple sound card interface is not your cup of tea then you can buy one pre-built from MFJ, SignaLink, or Rig Blaster. They typically come with instructions that you SHOULD/MUST READ before attempting to connect and operate the interface, as well as the necessary cables to make the connections between your radio and computer's sound card.

73
Mike W5RKL

On 3/5/2014 8:53 AM, K5MYJ wrote:

ï»¿

The main thing you want to do is to break the ground between the radio and the computer.

I run RTTY on my Benton Harbor S-Line Twins. I rewired a Heathkit phone patch just as straight transformers. It works very well.

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"
----- Original Message -----
From: Wes Will
To: TS-520_820_530_830@yahoogroups.com
Sent: Tuesday, March 04, 2014 11:24 PM
Subject: Re: [TS-520_820_530_830] Digital modes

On 03/04/2014 09:31 PM, dcurry@... wrote:
> What is the best (bang for buck) interface to automate (and silence) this connection?

Well, Daniel, the "bang" I got from a simple phone plug going from the phone patch out plug on the back of my 520SE to the microphone input jack on my Linux laptop, and a free open-source Morse and PSK tone decoder was pretty substantial.... Hand-keyed Morse all the way up to machine-generated. All the tone-based packet modes, too.

It's only 8 ohms out, so a matching transformer might be a good idea, depending on whether your computer sound card can handle input at that level. I had to attenuate almost to the lowest setting with the software volume controls in the operating system control panel, but it worked right out of the starting gate once I trimmed the signal levels down low enough.

The first program I tried had problems with the SLOW end of CW. Speeds below about 15 wpm weren't reliably decoded. Above that, though, it was flawless when the signal was good enough.

With a relay or an electronic switch in between the laptop and the rig to key it, I could add another short cable and -send- morse, too, with the same software. Probably cost me about ten bucks to build the interface, more or less, depending on how hard I scavenged the junkbox at home for the bits. A telephone modem (like we used to use for internet access) will output all the proper tones, if your sound card won't deal with them by itself. Most sound cards do, these days....

All kinds of possibilities abound. Even with old hybrid rigs, all you need do is bear in mind the signal levels you need for inputs, and what you have available as outputs (and where), and buffer or moderate between them. Audio signal transformers can be cabbaged out of old AM radios, and the like, for instance. Or you can buy them new if you're not limited in funds.

Here's a web site, even has the Kenwood 8-pin mike connections for the example schematic:

http://wa8lmf.net/ham/tonekeyer.htm

There are loads of other sites that have similar information. Have fun, you'll be amazed at what you can get these old machines to do, with a computer to help out. (I'm also planning on interfacing a "Midnight Design Solutions" Micro-908 antenna analyzer (N2APB is the designer) with the digital signal processing board to my 520SE as an external VFO as well as all the packet and other data modes. With that little marvel I won't even need the computer, it does it all by itself. But I -can- put the computer on there as well for even more features. If you can find a Micro-908, GRAB IT. They're fantastic!

--
Wes Will
N9KDY

48006. Re: [TS-520_820_530_830] Digital modes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-05 19:42:58 UTC
From: K5MYJ
Topic: 47978 Message: 48006

My plan is to modify my TS-520 to add two RCA jacks for the phone patch inputs and outputs.

The PS-1(A) will be modified to use the transformers to provide the isolation between the computer and the TS-520.

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"
----- Original Message -----
From: Mike W5RKL
To: TS-520_820_530_830@yahoogroups.com
Sent: Wednesday, March 05, 2014 9:06 AM
Subject: Re: [TS-520_820_530_830] Digital modes

Actually the PHONE PATCH IN and PHONE PATCH OUT sockets are on the TS-520S and TS-520SE, not the TS-520.

The PHONE PATCH IN connects to the GENERATOR UNIT's "PCH" terminal then through R10 (100K) to the negative terminal of C14 (1ufd 25VDC) capacitor. All this does is bypass resistors R7, R8 that connect to pin 1 of the microphone socket. The resistive voltage divider of R9 (10K) and R10 (100K) simply reduces the audio level that's applied to the base of Q3 through C14 on the GENERATOR UNIT board.

The PHONE PATCH OUT connects to the AF UNIT's "SP" terminal, same as the speaker.

There's no isolation on either PHONE PATCH IN/OUT sockets.

73
Mike W5RKL

On 3/5/2014 10:18 AM, K5MYJ wrote:

I just bought it!

But I will destroy is since phone patches are seldom used anymore.

I have a TS-520 which does not have a phone patch interface. But if I remember correctly the TS-520S does have a phone patch interface.

I will modify my TS-520 to add the phone patch interface. Maybe a DG-5 interface also.

Right now I am working on a 2M converter similar to the Elcraft 2M converter for use with my TS-520.

Bob Macklin
K5MYJ
Seattle, Wa.

"Real Radios Glow In The Dark"
----- Original Message -----
From: Mike W5RKL
To: TS-520_820_530_830@yahoogroups.com
Sent: Wednesday, March 05, 2014 7:55 AM
Subject: Re: [TS-520_820_530_830] Digital modes

Thanks Ken for the update on the PC-1 and PC-1A. It wouldn't require much work to modify the PC-1 or PC-1A to be used as a sound card interface.

73
Mike W5RKL

On 3/5/2014 9:45 AM, Ken Winterling wrote:

Bob,

Kenwood made the PC-1 (4 pin mic) and the PC-1A (8 pin mic). Â They are identical except for the mic connectors. Â A web search will turn up the pictures, manuals, and schematics.

Ken
WA2LBI

On Wed, Mar 5, 2014 at 10:41 AM, K5MYJ <macklinbob@...> wrote:

Â
Did Kenwood make a phone patch for the hybrids?
Â
Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"
----- Original Message -----
From: Mike W5RKL
To: TS-520_820_530_830@yahoogroups.com
Sent: Wednesday, March 05, 2014 7:27 AM
Subject: Re: [TS-520_820_530_830] Digital modes

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Try using your favorite search engine to search for and find simple sound card interface circuits you can build that won't cost you an arm and a leg, most likely can be built for less than $15!!

If building a simple sound card interface is not your cup of tea then you can buy one pre-built from MFJ, SignaLink, or Rig Blaster. They typically come with instructions that you SHOULD/MUST READ before attempting to connect and operate the interface, as well as the necessary cables to make the connections between your radio and computer's sound card.

73
Mike W5RKL

On 3/5/2014 8:53 AM, K5MYJ wrote:

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Ã¯Â»Â¿

The main thing you want to do is to break the ground between the radio and the computer.
Â
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Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"
----- Original Message -----
From: Wes Will
To: TS-520_820_530_830@yahoogroups.com
Sent: Tuesday, March 04, 2014 11:24 PM
Subject: Re: [TS-520_820_530_830] Digital modes

Â
On 03/04/2014 09:31 PM, dcurry@pcpn.net wrote:
> What is the best (bang for buck) interface to automate (and silence) this connection?

Well, Daniel, the "bang" I got from a simple phone plug going from the phone patch out plug on the back of my 520SE to the microphone input jack on my Linux laptop, and a free open-source Morse and PSK tone decoder was pretty substantial.... Hand-keyed Morse all the way up to machine-generated. All the tone-based packet modes, too.

It's only 8 ohms out, so a matching transformer might be a good idea, depending on whether your computer sound card can handle input at that level. I had to attenuate almost to the lowest setting with the software volume controls in the operating system control panel, but it worked right out of the starting gate once I trimmed the signal levels down low enough.

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There are loads of other sites that have similar information. Have fun, you'll be amazed at what you can get these old machines to do, with a computer to help out. (I'm also planning on interfacing a "Midnight Design Solutions" Micro-908 antenna analyzer (N2APB is the designer) with the digital signal processing board to my 520SE as an external VFO as well as all the packet and other data modes. With that little marvel I won't even need the computer, it does it all by itself. But I -can- put the computer on there as well for even more features. If you can find a Micro-908, GRAB IT. They're fantastic!

--
Wes Will
N9KDY

48007. Re: [TS-520_820_530_830] Digital modes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-05 23:42:38 UTC
From: Daniel Curry
Topic: 47978 Message: 48007

Bob,

Could you share that documentation? I would be interested in knowing how in depth it may be to get it working.

Daniel/KK4SWX

this post "trimmed/edited" as it contained already posted material. It is not necessary, or required to
include prior msgs- 73 Joe - WB7UQU

48008. DDS VFO for 530 or 830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-06 03:41:17 UTC
From: <cocobean64@...>
Topic: 48008 Message: 48008

Been working on this project for a while now, nearing completion. A couple of pictures can be found under the "Photos" heading. Look for the album DDS VFO for 530 or 830.

The idea came to me that I wanted to use NaP3 with my LP-Pan2 pan-adapter, on my Kenwood 530 and 830.
Since there is no "pc connection" on the rigs, this was not possible.

Now it is. The unit will plug into the existing " external vfo" connector on the back of the set. Rit, xit, split functions, vfo selection, a to b to a transfer all possible with the touch screen and it functions seamlessly with Nap3.
Its based on the Arduino Due microprocessor, uses two optical encoders (for rit and vfo functions), AD 9850 DDS oscilator to put out a frequency of 5.3 to 6.1Mhz (mimicking the OEM VFO).
Pertinent info (last vfo a / b frequencies and rit/xit) are stored on as SD card, and read in upon power up.

A second (smaller) Arduino microprocessor will be installed in the radio. It will monitor band switch, mode switch and Tx/Rx status. This info will be sent via serial (2 wire) communication back to the main unit for processing.

Not only will this work for Kenwood hybrids, but I think any other rig that has a mechanical vfo. You get the benefit of a rock-solid signal (no drift) and a useful panadapter.

73
Bart

cocobean64@gmail.com

48009. Re: [TS-520_820_530_830] DDS VFO for 530 or 830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-06 04:44:13 UTC
From: Joseph Stiles
Topic: 48008 Message: 48009

Bart,

  That is just waaayyy to cool! I gotta get me one

73 Joe
WB7UQU

On Wednesday, March 5, 2014 7:41 PM, "cocobean64@gmail.com" <cocobean64@...> wrote:

>Been working on this project for a while now, nearing completion.
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>The idea came to me that I wanted to use NaP3 with my LP-Pan2 pan-adapter, on my Kenwood 530 and 830.
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>Bart
>
>
>cocobean64@...
>
>

>

48010. RE: [TS-520_820_530_830] Digital modes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-06 08:58:00 UTC
From: fpath fpath
Topic: 47978 Message: 48010

Yes they did, I have one, but not allowed to use it in VK

73s

Dave VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: macklinbob@...
Date: Wed, 5 Mar 2014 07:41:42 -0800
Subject: Re: [TS-520_820_530_830] Digital modes

Did Kenwood make a phone patch for the hybrids?

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"

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Sent: Wednesday, March 05, 2014 7:27 AM
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Here's a web site, even has the Kenwood 8-pin mike connections for the example schematic:

http://wa8lmf.net/ham/tonekeyer.htm

There are loads of other sites that have similar information. Have fun, you'll be amazed at what you can get these old machines to do, with a computer to help out. (I'm also planning on interfacing a "Midnight Design Solutions" Micro-908 antenna analyzer (N2APB is the designer) with the digital signal processing board to my 520SE as an external VFO as well as all the packet and other data modes. With that little marvel I won't even need the computer, it does it all by itself. But I -can- put the computer on there as well for even more features. If you can find a Micro-908, GRAB IT. They're fantastic!

--
Wes Will
N9KDY

48011. Re: [TS-520_820_530_830] Digital modes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-06 14:09:09 UTC
From: K5MYJ
Topic: 47978 Message: 48011

You can use it to make a digital interface.

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"
----- Original Message -----
From: fpath fpath
To: TS-520_820_530_830@yahoogroups.com
Sent: Thursday, March 06, 2014 12:58 AM
Subject: RE: [TS-520_820_530_830] Digital modes

Yes they did, I have one, but not allowed to use it in VK

73s
Dave VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: macklinbob@...
Date: Wed, 5 Mar 2014 07:41:42 -0800
Subject: Re: [TS-520_820_530_830] Digital modes

Did Kenwood make a phone patch for the hybrids?

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"
----- Original Message -----
From: Mike W5RKL
To: TS-520_820_530_830@yahoogroups.com
Sent: Wednesday, March 05, 2014 7:27 AM
Subject: Re: [TS-520_820_530_830] Digital modes

Yes and there are plenty of websites that show how to build a "simple" sound card interface for CW, PSK, RTTY, and other so called "digital modes".

A simple sound card interface can be used for CW, PSK, RTTY, and other digital modes. The transceiver can be keyed (CW mode) using a simple transistor or opto isolator keying circuit, very easy to add to a sound card interface.

Connections to the radio and the computer's sound card can be accomplished using simple audio shielded cables. You don't need to spend a lot of money on expensive shielded cables, you won't notice any difference if you use $10 shielded cables verses $2 shielded cables, or you can make them yourself or use/buy the cheap ones found in the DVR/VCR box or at Walmart or Radio Shack.

Try using your favorite search engine to search for and find simple sound card interface circuits you can build that won't cost you an arm and a leg, most likely can be built for less than $15!!

If building a simple sound card interface is not your cup of tea then you can buy one pre-built from MFJ, SignaLink, or Rig Blaster. They typically come with instructions that you SHOULD/MUST READ before attempting to connect and operate the interface, as well as the necessary cables to make the connections between your radio and computer's sound card.

73
Mike W5RKL

On 3/5/2014 8:53 AM, K5MYJ wrote:

ï»¿

The main thing you want to do is to break the ground between the radio and the computer.

I run RTTY on my Benton Harbor S-Line Twins. I rewired a Heathkit phone patch just as straight transformers. It works very well.

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"
----- Original Message -----
From: Wes Will
To: TS-520_820_530_830@yahoogroups.com
Sent: Tuesday, March 04, 2014 11:24 PM
Subject: Re: [TS-520_820_530_830] Digital modes

On 03/04/2014 09:31 PM, dcurry@... wrote:
> What is the best (bang for buck) interface to automate (and silence) this connection?

Well, Daniel, the "bang" I got from a simple phone plug going from the phone patch out plug on the back of my 520SE to the microphone input jack on my Linux laptop, and a free open-source Morse and PSK tone decoder was pretty substantial.... Hand-keyed Morse all the way up to machine-generated. All the tone-based packet modes, too.

It's only 8 ohms out, so a matching transformer might be a good idea, depending on whether your computer sound card can handle input at that level. I had to attenuate almost to the lowest setting with the software volume controls in the operating system control panel, but it worked right out of the starting gate once I trimmed the signal levels down low enough.

The first program I tried had problems with the SLOW end of CW. Speeds below about 15 wpm weren't reliably decoded. Above that, though, it was flawless when the signal was good enough.

With a relay or an electronic switch in between the laptop and the rig to key it, I could add another short cable and -send- morse, too, with the same software. Probably cost me about ten bucks to build the

interface, more or less, depending on how hard I scavenged the junkbox at home for the bits. A telephone modem (like we used to use for internet access) will output all the proper tones, if your sound card won't deal with them by itself. Most sound cards do, these days....

All kinds of possibilities abound. Even with old hybrid rigs, all you need do is bear in mind the signal levels you need for inputs, and what you have available as outputs (and where), and buffer or moderate between them. Audio signal transformers can be cabbaged out of old AM radios, and the like, for instance. Or you can buy them new if you're not limited in funds.

Here's a web site, even has the Kenwood 8-pin mike connections for the example schematic:

http://wa8lmf.net/ham/tonekeyer.htm

There are loads of other sites that have similar information. Have fun, you'll be amazed at what you can get these old machines to do, with a computer to help out. (I'm also planning on interfacing a "Midnight Design Solutions" Micro-908 antenna analyzer (N2APB is the designer) with the digital signal processing board to my 520SE as an external VFO as well as all the packet and other data modes. With that little marvel I won't even need the computer, it does it all by itself. But I -can- put the computer on there as well for even more features. If you can find a Micro-908, GRAB IT. They're fantastic!

--
Wes Will
N9KDY

48012. Re: [TS-520_820_530_830] DDS VFO for 530 or 830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-06 14:32:43 UTC
From: Jan Servaites
Topic: 48008 Message: 48012

"You get the benefit of a rock-solid signal (no drift) and a useful panadapter."
This statement is a little confusing to me, your new digital VFO and the LP-Pan (panadapter hardware) are independent of each other when connected to a Kenwood hybrid, correct? Then I assume you use a PC program like "PowerSDR/IF" to combine both remote VFO (or frequency control)....AND.....a panadapter display (looking at the IF1 output of the hybrid's IF spectrum, on the back panel), correct?
Okay, I just wanted to help clear that up
Jan N8CBX
73

cocobean64@... wrote:

>
>
> Been working on this project for a while now, nearing completion.
>
> A couple of pictures can be found under the "Photos" heading. Look for
> the album DDS VFO for 530 or 830.
>
> The idea came to me that I wanted to use NaP3 with my LP-Pan2
> pan-adapter, on my Kenwood 530 and 830.
> Since there is no "pc connection" on the rigs, this was not possible.
>
> Now it is. The unit will plug into the existing " external vfo"
> connector on the back of the set. Rit, xit, split functions, vfo
> selection, a to b to a transfer all possible with the touch screen and
> it functions seamlessly with Nap3.
> Its based on the Arduino Due microprocessor, uses two optical encoders
> (for rit and vfo functions), AD 9850 DDS oscilator to put out a
> frequency of 5.3 to 6.1Mhz (mimicking the OEM VFO).
> Pertinent info (last vfo a / b frequencies and rit/xit) are stored on
> as SD card, and read in upon power up.
>
> A second (smaller) Arduino microprocessor will be installed in the
> radio. It will monitor band switch, mode switch and Tx/Rx status. This
> info will be sent via serial (2 wire) communication back to the main
> unit for processing.
>
> Not only will this work for Kenwood hybrids, but I think any other rig
> that has a mechanical vfo. You get the benefit of a rock-solid signal
> (no drift) and a useful panadapter.
>
> 73

> Bart
>
> cocobean64@...
>

48013. RE: DDS VFO for 530 or 830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-06 13:24:12 UTC
From: <jstevenorr@...>
Topic: 48008 Message: 48013

Bart Awesome! Time for a kit... Where do I send my deposit? Steve W5SO

48014. RE: DDS VFO for 530 or 830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-06 22:13:32 UTC
From: <ckepus@...>
Topic: 48008 Message: 48014

Bart, Congratulations on creating and developing what appears to be the answer to a lot of 530 and 830 owners' dreams, prayers, chants, wishful thinking, wistful thinking, etc., etc. It's difficult to stop the salivation your images in the file area stimulated.
I will echo a question already made: When and where can we sign up for a kit? Not kidding! :-)
Are you thinking about taking your development to that level? Or are you more inclined to provide the block diagrams, schematics, and parts list to those interested and coach us? Or?
I gotta go this direction also, I love my 830S and this type of enhancement will extend it's useful life for a long time.
Thanks for sharing and can't wait to see and hear more.
73,
Chris
W7JPG

48015. Re: [TS-520_820_530_830] Kenwood MC-50 Microphone

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-07 01:52:18 UTC
From: John
Topic: 47936 Message: 48015

Hi group,
After a bit of experimenting with various ideas, I have wrapped a thin bit of card around the mike element, I cut a circle to cover the top of the element and used a hole-punch to punch one hole through that. A bit of sheep's wool (lots of that around here!) on top of that got rid of any "popping" noises. According to a friend, it now sounds "natural". He was using a rig with recording facilities, and played it back to me at each modification. All happy now!
Cheers,
John
ZL1DT

> On 3/2/2014 8:11 PM, johnzl1dt@... wrote:
>>
>> Hi group,
>>
>> I have picked up an MC-50 desk microphone from a junk sale to use with
>> my TS-520S. >>Listeners say it has too much base , (I have a deep
>> voice) . I guess putting a capacitor >>in the audio line would work. So
>> has anyone done this? And what value cap did you use?
>>
>> Normal microphone is an MC-35S hand mike, and I get good reports.
>>
>> Thanks,
>>
>> John
>>
>> ZL1DT
>
>
>>
>> This email is free from viruses and malware because avast! Antivirus
>> >protection is active.

>
>

--
Using Opera's mail client: http://www.opera.com/mail/

48016. Kenwood 820 VFO

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-07 03:12:08 UTC
From: Wayne Schrubbe
Topic: 48016 Message: 48016

Hi Guys,
I am back with a nother question! I am running a TS520s, with the DG-5 display,
and useing a Astatic DN-HZ microphone head. I love it! Everything works great but the noise blanker (I can live with that!).
I was given a Kenwood 820 vfo, and I was woundering if I can use it on my TS520s? If I can, does anyone know the wiring for that? I took the cover off it and it looks like brand new inside! But the vfo knob is cracked and is useless. I am thinking an MFJ replacement will do fine. The vfo turns very hard. Is there some way I can free that up (oil/greese maybe)? or do I have to take it apart to overhall it? I have never done anything like that so it will be all new to me. Any tips or how to's would be greatly apperciated. If I do take this apart, I will need all the help I can get.

PS. in my last letter, I asked about a DC to DC converter. Well I got one! Both the exturnal converter and the power transformer (from a ts 520) for $50 buck!! It looks to be in good shape.
So did I get ripped off? Tell me what you think!...
Thanks for the help!
73
Wayne N9RXB cqn9rxb@...

48017. RE: DDS VFO for 530 or 830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-07 05:58:09 UTC
From: <cocobean64@...>
Topic: 48008 Message: 48017

Hello Jan,

Yes they are independent from each other.
Panadapter is connected to the rear IF output of the radio, and sound input of the PC.
The DDS VFO is also connected to the PC (via USB) and communicates (via the pc) with in my case NaP3.

To answer the question others had asked about kits....
As to kit availability, that's perhaps for the near future. First I need to get this one finished. It's a bit of a slow process as I work on it only when home. (my job is field service).
As I progress I will keep posting updates and pictures. If anyone has specific questions feel free to e-mail me at cocobean64@gmail.com. I will answer when time permits.

73
Bart
KB8BAB

48018. RE: [TS-520_820_530_830] RE: DDS VFO for 530 or 830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-07 07:31:40 UTC
From: fpath fpath
Topic: 48008 Message: 48018

Hi All,

Good job on the DDS VFO. However, the 530s does not have an IF 1 or 2 port for the pan display. I have installed both on one of my 530's, and it goes 6dB deaf and creates other slight problems on the IF board. Now this can be over come with some minor buffering which will preventing the IF ports from dragging the sensitivity down. So with the PAN SDR adaptor kit, are you taking it straight off the IF board?

Regards,

Dave
VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: cocobean64@...
Date: Thu, 6 Mar 2014 21:58:09 -0800
Subject: [TS-520_820_530_830] RE: DDS VFO for 530 or 830

Hello Jan,

Yes they are independent from each other.
Panadapter is connected to the rear IF output of the radio, and sound input of the PC.
The DDS VFO is also connected to the PC (via USB) and communicates (via the pc) with in my case NaP3.

To answer the question others had asked about kits....
As to kit availability, that's perhaps for the near future. First I need to get this one finished. It's a bit of a slow process as I work on it only when home. (my job is field service).
As I progress I will keep posting updates and pictures. If anyone has specific questions feel free to e-mail me at cocobean64@.... I will answer when time permits.

73
Bart
KB8BAB

48019. Web Site Updated to Include Gordon, N6WK's stuff

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-07 13:22:02 UTC
From: Mark Gilger
Topic: 48019 Message: 48019

http://wb4hfn.com/KENWOOD/KenwoodHomePage.htm

Most of Gordon's stuff has now been posted on my web site. If anyone finds something that's missing and feels it should be included, you can email me the needed information and I'll see that it gets posted.

I should also mention that I did not include all of the stuff on his web site, as there was some that was not Hybrid Legacy related. As time goes on I might be getting some of the non-hybrid stuff up there, but for now the focus is on the Hybrid stuff.

Thanks,
Mark, WB0IQK

48020. Re: [TS-520_820_530_830] Web Site Updated to Include Gordon, N6WK's stuff

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-07 13:26:02 UTC
From: Bob Lazarow
Topic: 48019 Message: 48020

Thanks Mark, effort much appreciated

Bob / WA2JAJ/4

On 3/7/2014 8:22 AM, Mark Gilger wrote:
>
> http://wb4hfn.com/KENWOOD/KenwoodHomePage.htm
>
> Most of Gordon's stuff has now been posted on my web site. If anyone
> finds something that's missing and feels it should be included, you
> can email me the needed information and I'll see that it gets posted.
>
> I should also mention that I did not include all of the stuff on his
> web site, as there was some that was not Hybrid Legacy related. As
> time goes on I might be getting some of the non-hybrid stuff up
> there, but for now the focus is on the Hybrid stuff.
>
> Thanks,
> Mark, WB0IQK
>
>

48021. Legacy Alignment Instructions Manuals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-07 13:49:37 UTC
From: Mark Gilger
Topic: 48021 Message: 48021

One new item that's been added, thanks to the great effort from Dick, W0NTA are Alignment Instruction manuals. These are appropriate pages pulled out of the service manual to make a condensed, easy to handle manual, verses the bulkier service manuals.

The following are available on http://wb4hfn.com/KENWOOD/KenwoodHomePage.htm and some at Dicks site : http://w0nta.com/

TS-520
TS-530S
TS-820S
R-820
TS-830S
TS-940S

More of these alignment manuals will be coming as time permits.

I know, the TS-940s is not a hybrid, but ha, it's my site. Since I own 3 of these I figured why not.....

Thanks,
Mark, WB0IQK

48022. Re: [TS-520_820_530_830] Kenwood 820 VFO

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-07 13:54:10 UTC
From: Mike W5RKL
Topic: 48016 Message: 48022

Wayne,

Yes, the VFO-820 will work with the TS-520 "PLug and Play". The connecting cable is a straight through, pin to pin (1 to 1, 2 to 2, 3 to 3 etc), no cross overs and no jumpers in the cable. If you do not have the VFO connecting cable then you will either have to find one on the web or build one yourself. I have no source for the 9 pin male plugs, 2 are required one on each end.

You say the Noise Blanker doesn't work. How did you come to that conclusion? Are you aware the Noise Blanker only works on "pulse" type noise such as power line arcing and ignition noise? Quite often people think the noise blanker in the KW hybrids will eliminate ALL noise but that's not true. The operator's manual discusses that the noise blanker only works on pulse type noise. If the noise you are trying to eliminate is not a pulse type noise then the 520 noise blanker will have no affect on the noise.

You said you purchased the DS-1A along with a power transformer and wonder if you got ripped off. "IF" the DS-1A is bad, say one of the transistors is bad, then it will cost you approximately $100 or more to replace the transistors. The price depends on where you can find the NTE-28 or 2N4049 transistors. If only one transistor is bad then you should replace both transistors. The 2N4049 or NTE-28 transistors are not cheap. Also, if the power transformer is bad, say only one winding is bad (shorted), then the transformer will have to be rewound before you can use it. You cannot use the transformer by simply not using a shorted winding. The transformer will need to be rewound and that can be expensive. For example, TRS (Transformer Rewinding Service) will rewind a bad TS-520S power transformer for $188 plus 2 x shipping. How do you tell if the transformer is bad? There are a couple of ways that do not require applying power. First, smell the transformer. If it smells like burnt tar or burnt grease then one or more windings have overheated and have shorted. Second, you can measure the DC resistance of each winding. I don't have the individual resistance values for each winding, maybe another member has it. Don't guess! No you cannot leave the bad winding disconnected and use the other windings, transformers do not work like that when a winding is shorted.

As for the VFO being hard to turn, sounds like the bearing grease has become dried out and hard. Clean the bearings grease should help free up the VFO shaft making it easier to rotate.

73
Mike W5RKL

On 3/6/2014 9:12 PM, Wayne Schrubbe wrote:
>
> Hi Guys,
> I am back with a nother question! I am running a TS520s, with the DG-5
> display,
> and useing a Astatic DN-HZ microphone head. I love it! Everything
> works great but the noise blanker (I can live with that!).
> I was given a Kenwood 820 vfo, and I was woundering if I can use it on
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> fine. The vfo turns very hard. Is there some way I can free that up
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> have never done anything like that so it will be all new to me. Any
> tips or how to's would be greatly apperciated. If I do take this
> apart, I will need all the help I can get.
>
> PS. in my last letter, I asked about a DC to DC converter. Well I got
> one! Both the exturnal converter and the power transformer (from a ts
> 520) for $50 buck!! It looks to be in good shape.
> So did I get ripped off? Tell me what you think!...
> Thanks for the help!
> 73
> Wayne N9RXB cqn9rxb@... <mailto:cqn9rxb@...>
>
>

48023. Re: [TS-520_820_530_830] Kenwood 820 VFO

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-07 14:16:52 UTC
From: K5MYJ
Topic: 48016 Message: 48023

The nine pin connector can be made by using two nine pin tube sockets.

You remove the female pins from the sockets and insert brass wire from a hobby shop (K&S brass wire).

I use a socket with the female pins as a jig to assemble these connectors. I use epoxy on the back side of the connector to retain the new pins in the sockets.

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"
----- Original Message -----
From: Mike W5RKL
To: TS-520_820_530_830@yahoogroups.com
Sent: Friday, March 07, 2014 5:54 AM
Subject: Re: [TS-520_820_530_830] Kenwood 820 VFO

Wayne,

Yes, the VFO-820 will work with the TS-520 "PLug and Play". The connecting cable is a straight through, pin to pin (1 to 1, 2 to 2, 3 to 3 etc), no cross overs and no jumpers in the cable. If you do not have the VFO connecting cable then you will either have to find one on the web or build one yourself. I have no source for the 9 pin male plugs, 2 are required one on each end.

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Mike W5RKL

On 3/6/2014 9:12 PM, Wayne Schrubbe wrote:

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So did I get ripped off? Tell me what you think!...
Thanks for the help!
73
Wayne N9RXB cqn9rxb@...

48024. RE: Web Site Updated to Include Gordon, N6WK's stuff

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-07 14:12:43 UTC
From: <ke5ftf@...>
Topic: 48019 Message: 48024

Thanks....
My new home number is 940-488-9236 for KE5FTF...
Bob

48025. Re: [TS-520_820_530_830] RE: DDS VFO for 530 or 830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-07 14:19:25 UTC
From: Jan Servaites
Topic: 48008 Message: 48025

Hi Dave,
I also added an IF port to my 530 and it apparently works without
loading down the IF signal. I'm using a Softrock Ensemble II. I followed
the same wiring as the 830. Maybe you did too?
SDR panadapter for the Kenwood hybrid is one of my lectures at the
Dayton Hamvention on Sunday.
Jan N8CBX

fpath fpath wrote:

>
>
> Hi All,
>
> Good job on the DDS VFO. However, the 530s does not have an IF 1 or 2
> port for the pan display. I have installed both on one of my 530's,
> and it goes 6dB deaf and creates other slight problems on the IF
> board. Now this can be over come with some minor buffering which
> will preventing the IF ports from dragging the sensitivity down. So
> with the PAN SDR adaptor kit, are you taking it straight off the IF board?
>
> Regards,
>
> Dave
> VK5PDL
>
> ---
> To: TS-520_820_530_830@yahoogroups.com
> From: cocobean64@...
> Date: Thu, 6 Mar 2014 21:58:09 -0800
> Subject: [TS-520_820_530_830] RE: DDS VFO for 530 or 830
>
>
> Hello Jan,
>
> Yes they are independent from each other.
> Panadapter is connected to the rear IF output of the radio, and sound
> input of the PC.
> The DDS VFO is also connected to the PC (via USB) and communicates
> (via the pc) with in my case NaP3.
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> To answer the question others had asked about kits....
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> need to get this one finished. It's a bit of a slow process as I work
> on it only when home. (my job is field service).

> As I progress I will keep posting updates and pictures. If anyone has
> specific questions feel free to e-mail me at cocobean64@.... I
> will answer when time permits.
>
> 73
> Bart
> KB8BAB
>
>
>

48026. Re: [TS-520_820_530_830] Web Site Updated to Include Gordon, N6WK's stuff

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-07 14:21:06 UTC
From: W2FID
Topic: 48019 Message: 48026

NICE JOB MARK. THANKS FOR TAKING THE TIME.
MARSHALL
W2FID

From: Mark Gilger <mgilger@...>
To: ts-520_820_530_830@yahoogroups.com
Sent: Friday, March 7, 2014 8:22 AM
Subject: [TS-520_820_530_830] Web Site Updated to Include Gordon, N6WK's stuff

http://wb4hfn.com/KENWOOD/KenwoodHomePage.htm

Most of Gordon's stuff has now been posted on my web site. If anyone finds something that's missing and feels it should be included, you can email me the needed information and I'll see that it gets posted.

I should also mention that I did not include all of the stuff on his web site, as there was some that was not Hybrid Legacy related. As time goes on I might be getting some of the non-hybrid stuff up there, but for now the focus is on the Hybrid stuff.

Thanks,
Mark, WB0IQK

48027. Re: [TS-520_820_530_830] Web Site Updated to Include Gordon, N6WK's stuff

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-07 17:41:43 UTC
From: W LEWIS
Topic: 48019 Message: 48027

Hey Mark,
Did you include the TL-922A 10 meter mod? I had that on my main computer which crashed and is in the shop and I'm not sure yet what they will be able to save.
Butch
KØPSA

From: Mark Gilger <mgilger@...>
To: ts-520_820_530_830@yahoogroups.com
Sent: Friday, March 7, 2014 7:22 AM
Subject: [TS-520_820_530_830] Web Site Updated to Include Gordon, N6WK's stuff

http://wb4hfn.com/KENWOOD/KenwoodHomePage.htm

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I should also mention that I did not include all of the stuff on his web site, as there was some that was not Hybrid Legacy related. As time goes on I might be getting some of the non-hybrid stuff up there, but for now the focus is on the Hybrid stuff.

Thanks,
Mark, WB0IQK

48028. OT: Old Callbooks?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-07 18:03:18 UTC
From: Cliff White
Topic: 48028 Message: 48028

I'm on a quest to find out who held my vanity callsign, W5CNW, and it's predecessor, 5CNW (before the late 1920's there was no prefix in the US) before I got it in late 2012.

Does anyone know of archived callbooks online? Or does anyone here have old ones they could look it up in? The only callbook I have is from 1916, and they had not yet gotten up to 5CNW then.

Thank y'all!
--
Respectfully,
Cliff White, W5CNW
w5cnw@... <mailto:w5cnw@...>

48029. Re: [TS-520_820_530_830] Web Site Updated to Include Gordon, N6WK's stuff

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-07 18:35:36 UTC
From: Joseph Stiles
Topic: 48019 Message: 48029

Mark,

  Thanks for obtaining Gordon's(n6wk-SK) information. It was quite a treasure trove!

  N6WK.com is now unavailable...73's Gordon...you are missed!

73 Joe
WB7UQU
Group Co-Owner

On Friday, March 7, 2014 7:02 AM, W2FID <w2fid@...> wrote:

>NICE JOB MARK. THANKS FOR TAKING THE TIME.
>MARSHALL
>W2FID
>
>
>From: Mark Gilger <mgilger@...>
>To: ts-520_820_530_830@yahoogroups.com
>Sent: Friday, March 7, 2014 8:22 AM
>Subject: [TS-520_820_530_830] Web Site Updated to Include Gordon, N6WK's stuff
>
>
>
>
>http://wb4hfn.com/KENWOOD/KenwoodHomePage.htm
>
>Most of Gordon's stuff has now been posted on my web site. If anyone
>finds something that's missing and feels it should be included, you
>can email me the needed information and I'll see that it gets posted.
>
>I should also mention that I did not include all of the stuff on his
>web site, as there was some that was not Hybrid Legacy related. As
>time goes on I might be getting some of the non-hybrid stuff up
>there, but for now the focus is on the Hybrid stuff.
>
>Thanks,
>Mark, WB0IQK
>
>
>
>
>
>
>

48030. Re: [TS-520_820_530_830] Web Site Updated to Include Gordon, N6WK's stuff

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-07 18:41:01 UTC
From: Mark Gilger
Topic: 48019 Message: 48030

Don't know the guys personally. One of our AM
guys on 50.4 is dealing with him. He's gotten
several front panels from him and been reall
happy. I'm thinking about also getting a couple
of SB-610 scope overlays done, one to match
Collins, Drake and Kenwood. Just have not been
able to spend any time on that project yet coming
up with a design, primarily for the Drake one.

Mark

At 01:35 PM 3/7/2014, you wrote:
>
>
>Mark,
>
> Thanks for obtaining Gordon's(n6wk-SK)
> information. It was quite a treasure trove!
>
> N6WK.com is now unavailable...73's Gordon...you are missed!
>
>
>
>
>73 Joe
>WB7UQU
>Group Co-Owner
>
>
>On Friday, March 7, 2014 7:02 AM, W2FID <w2fid@...> wrote:
>
>NICE JOB MARK. THANKS FOR TAKING THE TIME.
>MARSHALL
>W2FID
>
>From: Mark Gilger <mgilger@...>
>To: ts-520_820_530_830@yahoogroups.com
>Sent: Friday, March 7, 2014 8:22 AM
>Subject: [TS-520_820_530_830] Web Site Updated to Include Gordon, N6WK's stuff
>
>
>http://wb4hfn.com/KENWOOD/KenwoodHomePage.htm
>
>Most of Gordon's stuff has now been posted on my web site. If anyone

>finds something that's missing and feels it should be included, you
>can email me the needed information and I'll see that it gets posted.
>
>I should also mention that I did not include all of the stuff on his
>web site, as there was some that was not Hybrid Legacy related. As
>time goes on I might be getting some of the non-hybrid stuff up
>there, but for now the focus is on the Hybrid stuff.
>
>Thanks,
>Mark, WB0IQK
>
>
>
>
>
>

48031. D-104 and Kenwood TS-520 - wiring (again)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-07 20:24:34 UTC
From: <lpleach@...>
Topic: 48031 Message: 48031

I've searched the Internet and have not found quite the information that I need to get my newly acquired Astatic D-104 (Tug8 4-pin, unamplified) working properly. I'm new to this group and new to Ham radio. just got my General ticket a few weeks ago and am eager to get on the air!
My D104 keys up but that's all I get out of it.
I've checked the schematic and it appears to be wired in it's original configuration, but it doesn't include clear instructions on how the cable is to be wired.
Here's what I have:

Cable Connected to Mic wires
braided wire tab 1 black wire
shielded tab 2 white/green and green
red tab 3 yellow
black - snipped off/not connected

The white/green and yellow wires are the PTT switch, which is a SPST and the switch is grounded.This is rather confusing as the rig is supposed to have pin 2 and 3 as the switch and the other 2 pins for the mic. As it is now, only 3 pins are actually connected. I'm stumped.

Larry
KF5YZZ

48032. Re: [TS-520_820_530_830] D-104 and Kenwood TS-520 - wiring (again)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-07 22:00:09 UTC
From: Ken Winterling
Topic: 48031 Message: 48032

Larry,

Do you have the schematic for that specific stand? I attached a diagram of what I believe you have. It will be stripped by the reflector so I copied your direct address so you should get it.

The diagram I sent you does not have the same cable you described but that is not important. I will describe what I have done to similar stands. If I have the correct diagram for your stand you will notice that one side of the mic is grounded. The mic for a TS-520 should not have either side of the mic grounded (to avoid hum) so you will need to disconnect the grounded side. You will also notice that the mic is normally short-circuited (grounded) unless the PTT bar is squeezed. That prevents using VOX.

The following rewiring instructions will permit VOX and isolate the mic from ground as well as the PTT circuit. Since there is only one SPDT (you say yours is SPST?) switch I remove all of the wires so I have a clean work area and to reduce confusion.

Rewire the base:
1. Connect one side of the mic element directly to the center conductor of the shielded wire.
2. Connect the other side of the mic element to the shield which must not be connected to anything else in the base.
3. Connect the BLACK wire to the center, common, terminal of the SPDTswitch.
4. Connect the RED wire to the NO (Normally Open) terminal on the SPDTswitch.

On the rig end of the cable connect the specified wires to the plug pins:
Shielded center conductor to Pin 1 of the plug (mic hi)
RED wire to Pin 2 (PTT)
Black wire to Pin 3 (PTT ground)
Shield to Pin 4 (mic lo)

Good luck and keep us advised of your progress!

Ken
WA2LBI

On Fri, Mar 7, 2014 at 3:24 PM, <lpleach@...> wrote:

>
>
> I've searched the Internet and have not found quite the information that I
> need to get my newly acquired Astatic D-104 (Tug8 4-pin, unamplified)
> working properly. I'm new to this group and new to Ham radio. just got my
> General ticket a few weeks ago and am eager to get on the air!
> My D104 keys up but that's all I get out of it.

> I've checked the schematic and it appears to be wired in it's original
> configuration, but it doesn't include clear instructions on how the cable
> is to be wired.
> Here's what I have:
>
> Cable Connected to Mic wires
> braided wire tab 1 black wire
> shielded tab 2 white/green and green
> red tab 3 yellow
> black - snipped off/not connected
>
> The white/green and yellow wires are the PTT switch, which is a SPST and
> the switch is grounded.This is rather confusing as the rig is supposed to
> have pin 2 and 3 as the switch and the other 2 pins for the mic. As it is
> now, only 3 pins are actually connected. I'm stumped.
>
> Larry
> KF5YZZ
>
>

[Non-text portions of this message have been removed]

48033. Re: [TS-520_820_530_830] OT: Old Callbooks?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-07 22:29:20 UTC
From: Manuel Alberto Marques
Topic: 48028 Message: 48033

Hi Cliff

This is Marq , CT1BWW on us call direcory 1984-1985 I COULDN'T FIND NO
W5CNW
THERE ARE only N5CNW, WA5CNW, WB5CNW, and WD5CNW

73s frm Marq ct1 bravo willy willy

2014-03-07 18:03 GMT+00:00 Cliff White <cn.white@sunbelt-plb.com>:

>
>
> I'm on a quest to find out who held my vanity callsign, W5CNW, and it's
> predecessor, 5CNW (before the late 1920's there was no prefix in the US)
> before I got it in late 2012.
>
> Does anyone know of archived callbooks online? Or does anyone here have
> old ones they could look it up in? The only callbook I have is from 1916,
> and they had not yet gotten up to 5CNW then.
>
> Thank y'all!
> --
> Respectfully,
> Cliff White, W5CNW
> w5cnw@...
>
>
>

--
CT1BWW
* "ct1 bravo willy willy"*
"We are what we comunicate!"
www.ct1bww.com
www.ct1bww.qsl.net

48034. Re: [TS-520_820_530_830] OT: Old Callbooks?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-08 01:09:15 UTC
From: Cliff White
Topic: 48028 Message: 48034

Thanks Marq. Maybe it will show it in other years. I have a friend here locally that has a 64-65 book, he just found WA5CNW.

Respectfully,
Cliff White, W5CNW
w5cnw@... <mailto:w5cnw@...>
On 03/07/2014 04:29 PM, Manuel Alberto Marques wrote:
>
>
> Hi Cliff
>
> This is Marq , CT1BWW on us call direcory 1984-1985 I COULDN'T FIND
> NO W5CNW
> THERE ARE only N5CNW, WA5CNW, WB5CNW, and WD5CNW
>
> 73s frm Marq ct1 bravo willy willy
>
>
> 2014-03-07 18:03 GMT+00:00 Cliff White <cn.white@...
> <mailto:cn.white@...>>:
>
> I'm on a quest to find out who held my vanity callsign, W5CNW, and
> it's predecessor, 5CNW (before the late 1920's there was no prefix
> in the US) before I got it in late 2012.
>
> Does anyone know of archived callbooks online? Or does anyone here
> have old ones they could look it up in? The only callbook I have
> is from 1916, and they had not yet gotten up to 5CNW then.
>
> Thank y'all!
>
> --
> Respectfully,
> Cliff White, W5CNW
> w5cnw@... <mailto:w5cnw@...>
>
>
>
>
> --
> CT1BWW
> /"ct1 bravo willy willy"/
> "We are what we comunicate!"
> www.ct1bww.com <http://www.ct1bww.com/>
> www.ct1bww.qsl.net <http://www.ct1bww.qsl.net/>

>
>
>

48035. Re: [TS-520_820_530_830] D-104 and Kenwood TS-520 - wiring (again)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-08 02:48:52 UTC
From: <w5rkl@...>
Topic: 48031 Message: 48035

Larry,

The D-104 microphones have the wiring schematic pasted on the inside of the microphone stand bottom cover. I recommend removing the microphone stand's bottom cover where you should find the microphone PTT/Microphone element schematic.

73
Mike W%RKL

48036. TS-520SE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-08 12:21:25 UTC
From: <wb3bqo@...>
Topic: 4279 Message: 48036

GM to all. I'm working on a friends TS-520SE. It receives and transmits just fine. The question is in the S-meter. In both TX and RX it is over-sensitive. In RX I have to use the RF ATTN button to get the needle to quit banging the right stop. In TX I have to reduce TX power to almost nothing to get the needle to come off the right stop when tuning up. The manual has no info on any adjustments and the owner said that he has not played with any adjustments. Would the Group have a suggestion on a remedy?
Thanks & 73,
Pete WW3O

48037. Re: [TS-520_820_530_830] TS-520SE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-08 13:19:19 UTC
From: Mike W5RKL
Topic: 4279 Message: 48037

Pete,

The TS-520S service manual can be used with the TS-520SE and it has the "S meter" VR1 and VR2 pots on the IF Unit board adjustments. These pots control the meter level and sensitivity in receive (S Units) AND in TX tune up displaying ALC.

You didn't say what position the meter switch is set to when tuning the transmitter and the meter pegs full scale/peg fully to the right. I suspect the meter switch was set to "ALC" since you are saying both receive S meter AND the TX meter is pegging fully to the right. If this is true then you should check the TS-520S Service manual's "S Meter" adjustment.

73
Mike W5RKL

On 3/8/2014 6:21 AM, wb3bqo@... wrote:
>
> GM to all. I'm working on a friends TS-520SE. It receives and
> transmits just fine. The question is in the S-meter. In both TX and RX
> it is over-sensitive. In RX I have to use the RF ATTN button to get
> the needle to quit banging the right stop. In TX I have to reduce TX
> power to almost nothing to get the needle to come off the right stop
> when tuning up. The manual has no info on any adjustments and the
> owner said that he has not played with any adjustments. Would the
> Group have a suggestion on a remedy?
> Thanks & 73,
> Pete WW3O
>
>

48038. Re: [TS-520_820_530_830] TS-520SE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-08 13:54:43 UTC
From: Mike W5RKL
Topic: 4279 Message: 48038

Pete,

I forgot to say, the S meter and ALC pots on the IF Unit are "VR1" and "VR2". It's likely these pots are dirty. VR1 and VR2 on the IF Unit board are the same in the TS-520S and TS-520SE and the TS-520S S Meter adjustment in the 520S service manual can be performed in the 520SE.

The TS-520SE is very much the same radio as the TS-520S. There are some differences such as in the power supply (no DS-1A DC power capabilities and main power is either 120VAC or 240VAC power ONLY), the heater switch was eliminated and the previous HEATER switch in the TS-520S was changed to a WIDE/NARROW filter select switch in the 520SE.

73
Mike W5RKL
On 3/8/2014 7:19 AM, Mike W5RKL wrote:
>
> Pete,
>
> The TS-520S service manual can be used with the TS-520SE and it has
> the "S meter" VR1 and VR2 pots on the IF Unit board adjustments. These
> pots control the meter level and sensitivity in receive (S Units) AND
> in TX tune up displaying ALC.
>
> You didn't say what position the meter switch is set to when tuning
> the transmitter and the meter pegs full scale/peg fully to the right.
> I suspect the meter switch was set to "ALC" since you are saying both
> receive S meter AND the TX meter is pegging fully to the right. If
> this is true then you should check the TS-520S Service manual's "S
> Meter" adjustment.
>
> 73
> Mike W5RKL
>
>
>
> On 3/8/2014 6:21 AM, wb3bqo@... wrote:
>>
>> GM to all. I'm working on a friends TS-520SE. It receives and
>> transmits just fine. The question is in the S-meter. In both TX and
>> RX it is over-sensitive. In RX I have to use the RF ATTN button to
>> get the needle to quit banging the right stop. In TX I have to reduce
>> TX power to almost nothing to get the needle to come off the right
>> stop when tuning up. The manual has no info on any adjustments and
>> the owner said that he has not played with any adjustments. Would the
>> Group have a suggestion on a remedy?

>> Thanks & 73,
>> Pete WW3O
>>
>
>

48039. Re: [TS-520_820_530_830] TS-520SE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-08 15:03:29 UTC
From: kshitij mathur
Topic: 4279 Message: 48039

on the right hand side there is a small door- open it and the first knob (from the rear side) is for RF movement on meter- may be that potentiometer is dirty- clean it rotate it back and forth many times and then adjust final settings using a dummy load and power meter with100 watts out put to needle position at 220 ma at meter while transmitting (keying the transmitter) and your are in the business !!!

On Saturday, 8 March 2014 7:24 PM, Mike W5RKL <w5rkl@...> wrote:

Pete,

I forgot to say, the S meter and ALC pots on the IF Unit are "VR1"
and "VR2". It's likely these pots are dirty. VR1 and VR2 on the IF Unit board are the same in the TS-520S and TS-520SE and the TS-520S S Meter adjustment in the 520S service manual can be performed in the 520SE.

The TS-520SE is very much the same radio as the TS-520S. There are
some differences such as in the power supply (no DS-1A DC power
capabilities and main power is either 120VAC or 240VAC power
ONLY), the heater switch was eliminated and the previous HEATER
switch in the TS-520S was changed to a WIDE/NARROW filter select
switch in the 520SE.

73
Mike W5RKL
On 3/8/2014 7:19 AM, Mike W5RKL wrote:

>Pete,
>
>The TS-520S service manual can be used with the TS-520SE
and it has the "S meter" VR1 and VR2 pots on the IF Unit
board adjustments. These pots control the meter level
and sensitivity in receive (S Units) AND in TX tune up
displaying ALC.
>
>You didn't say what position the meter switch is set to
when tuning the transmitter and the meter pegs full
scale/peg fully to the right. I suspect the meter switch
was set to "ALC" since you are saying both receive S
meter AND the TX meter is pegging fully to the right. If
this is true then you should check the TS-520S Service
manual's "S Meter" adjustment.
>
>73
>Mike W5RKL
>
>

>
>
>On 3/8/2014 6:21 AM, wb3bqo@... wrote:
>
>
>>GM to all. I'm working on a friends TS-520SE. It receives and transmits just fine. The question is in the S-meter. In both TX and RX it is over-sensitive. In RX I have to use the RF ATTN button to get the needle to quit banging the right stop. In TX I have to reduce TX power to almost nothing to get the needle to come off the right stop when tuning up. The manual has no info on any adjustments and the owner said that he has not played with any adjustments. Would the Group have a suggestion on a remedy?
>>Thanks & 73,
>>Pete WW3O
>

48040. TS-520 VOX issue

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-08 15:04:16 UTC
From: <ccunert@...>
Topic: 48040 Message: 48040

Hey guys:
I still have my first real rig I bought in 1975, a TS-520 that still puts out a good 100 Watts nice and steady. Receives very well, but may get the front end tuned up to be sure, S meter works very well. No apparent problems with any of the features except one. To transmit SSB or CW I have to turn on the send switch only. When I move the VOX switch from manual to VOX and close the CW key or press PTT on the mic it will not transmit, but will transmit when the send is used. In other words the full break in is unavailable. I can hear the VOX relay activate and stay engaged for about 1 second, there is no sidetone for this second. There seems to be transmit power out for the 1 second. No matter where I set VOX gain, delay or anti VOX the same situation exists. Anyone have any ideas where to start?

48041. Re: [TS-520_820_530_830] TS-520 VOX issue

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-08 17:44:51 UTC
From: Daniel Curry
Topic: 48040 Message: 48041

I too, am having issues with VOX on a stock TS-520. I have to really shout to get it to transmit, using an MC-50 microphone that works wonderfully, when in manual. I have no knobs on the face of the transceiver labeled anything related to VOX, or am I missing something. Thanks.

Daniel/KK4SWX

On 3/8/2014 9:04 AM, ccunert@... wrote:
>
> Hey guys:
> I still have my first real rig I bought in 1975, a TS-520 that still
> puts out a good 100 Watts nice and steady. Receives very well, but may
> get the front end tuned up to be sure, S meter works very well. No
> apparent problems with any of the features except one. To transmit SSB
> or CW I have to turn on the send switch only. When I move the VOX
> switch from manual to VOX and close the CW key or press PTT on the mic
> it will not transmit, but will transmit when the send is used. In
> other words the full break in is unavailable. I can hear the VOX relay
> activate and stay engaged for about 1 second, there is no sidetone for
> this second. There seems to be transmit power out for the 1 second. No
> matter where I set VOX gain, delay or anti VOX the same situation
> exists. Anyone have any ideas where to start?
>
>

48042. Re: [TS-520_820_530_830] D-104 and Kenwood TS-520 - wiring (again)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-08 17:40:55 UTC
From: Larry Leach
Topic: 48031 Message: 48042

Ken,
This looks like what I'm looking for. The only difference is that the switch defaults to the other position. No biggie.
I'm attaching a pic of the base wiring.
So here's what I have so far:

1. Connect one side of the mic element directly to the center conductor of the shielded wire.
Black wire of the mic to the center shielded wire. Check!

2. Connect the other side of the mic element to the shield which must not be connected to anything else in the base.
Green wire to shield wire. Check!

3. Connect the BLACK wire to the center, common, terminal of the SPDT switch.
Which black wire? The one from the cable? The one from the mic is already connected to the center shielded wire.

4. Connect the RED wire to the NO (Normally Open) terminal on the SPDT switch.
Red wire connected to the yellow wire. Schematic shows this as the NO side. It was already connected in the original wiring. Does it matter if it's on a tab/post or does it have to be directly connected only like the others?

Larry
KF5YZZ

On Friday, March 7, 2014 8:44 PM, "TS-520_820_530_830-owner@yahoogroups.com" <TS-520_820_530_830-owner@yahoogroups.com> wrote:

There is a requirement that all members must add an acceptable message signature at the end of each message members post on or respond to in this group. This requirement was outlined in a message sent to you when your application for membership to the Yahoo Kenwood TS_520_820_530_820 group was approved.

Your recent message failed to contain an acceptable message signature, therefore it was rejected.

If you do not know what is considered an acceptable message signature then I recommend you log onto the group's homepage and read the messages contained in the group's homepage AUTOTEXT MSG folder.

Any/all future messages you post/respond to on the Yahoo Kenwood TS_520_820_530_830 group must contain an acceptable message signature.

73
Mike W5RKL
Yahoo Kenwood TS_520_820_530_830 Group Moderator

---In lpleach@..., wrote :

Ken,
  This diagram is pretty darn close to what I have. The only difference is that the switch shows the default position in the opposite side. Looks like your instructions are just what I need. I will report back when I get this set up and tested!

[Non-text portions of this message have been removed]

48043. TS830: Delayed receive recovery after transmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-08 21:36:52 UTC
From: <alan_wolf69@...>
Topic: 48043 Message: 48043

I know that delayed receive recovery is a common issue in these rigs. I did the tap test on the AF board RL1 - no effect - but since I was motivated, I replaced the relay anyway. No change. What would be the next logical thing to look for - issues with the antenna relay? I hoping that the group experience can point me in a reasonable direction to look. One observation: If the transmit time is very short (few seconds), recovery is normal. If transmit time is a minute or longer, the the delayed recovery is 5+ seconds. Problem is the same on all bands all modes. There are no other issues with radio. No transmit or receive problems except for the delayed recovery. And it really is great to have a group with so much experience and knowledge. Thanks - Al K2QU.

48044. Re: [TS-520_820_530_830] TS-520 VOX issue

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-08 21:49:33 UTC
From: Daniel Curry
Topic: 48040 Message: 48044

I found and resolved my issue. On the left side of the rig is a panel hiding a few pots. Three of which are for controlling the VOX.

Daniel/KK4SWX

this post/msg edited/trimmed as it contained already posted material - Joe - WB7UQU

48045. RE: [TS-520_820_530_830] RE: DDS VFO for 530 or 830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-08 22:03:42 UTC
From: fpath fpath
Topic: 48008 Message: 48045

Jan, No I havent copied from the 830s, as I received a modicification from the former Kenwood Australia Users Group, which was based as Kenwood Australia head office, which closed when Kenwood Australia, dropped off the map.

73s

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: jservaites@...
Date: Fri, 7 Mar 2014 09:19:25 -0500
Subject: Re: [TS-520_820_530_830] RE: DDS VFO for 530 or 830

Hi Dave,
I also added an IF port to my 530 and it apparently works without loading down the IF signal. I'm using a Softrock Ensemble II. I followed the same wiring as the 830. Maybe you did too?
SDR panadapter for the Kenwood hybrid is one of my lectures at the Dayton Hamvention on Sunday.
Jan N8CBX

fpath fpath wrote:

Hi All,

Good job on the DDS VFO. However, the 530s does not have an IF 1 or 2 port for the pan display. I have installed both on one of my 530's, and it goes 6dB deaf and creates other slight problems on the IF board. Now this can be over come with some minor buffering which will preventing the IF ports from dragging the sensitivity down. So with the PAN SDR adaptor kit, are you taking it straight off the IF board?

Regards,

Dave
VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: cocobean64@gmail.com
Date: Thu, 6 Mar 2014 21:58:09 -0800
Subject: [TS-520_820_530_830] RE: DDS VFO for 530 or 830

Hello Jan,

Yes they are independent from each other.
Panadapter is connected to the rear IF output of the radio, and sound input of the PC.
The DDS VFO is also connected to the PC (via USB) and communicates (via the pc) with in my

case NaP3.

To answer the question others had asked about kits....
As to kit availability, that's perhaps for the near future. First I need to get this one finished. It's a bit of a slow process as I work on it only when home. (my job is field service).
As I progress I will keep posting updates and pictures. If anyone has specific questions feel free to e-mail me at cocobean64@.... I will answer when time permits.

73
Bart
KB8BAB

48046. Re: [TS-520_820_530_830] TS-520 VOX issue

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-08 22:22:23 UTC
From: <w5rkl@...>
Topic: 48040 Message: 48046

The problem is not the microphone or the CW sidetone. It's not the relay control circuit on the VOX Unit board either because if it were the VOX Relay control circuit then the relays would not energize when you flip the SEND switch to transmit. The PTT "and" the SEND switch are wired in "parallel", they both do the same exact thing, ground the "SS" terminal on the VOX Unit board, turning Q8, relay control transistor ON allowing the relays, both of them, to energize when the PTT button is pressed (or grounding pin 2 on the microphone socket) or flipping the SEND switch to transmit. You can see this if you look at the 520 schematic.

73
Mike W5RKL

48048. Re: [TS-520_820_530_830] TS-520 VOX issue

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-08 22:47:22 UTC
From: <w5rkl@...>
Topic: 48040 Message: 48048

I mistakenly assumed the operator had taken the time and read the 520's operator's manual and knew how to set the 520 for VOX. I mean on disrespect but this is a reoccurring problem with operators who do not take the time to read the operator's manual so they understand what the individual control functions are and how to set the controls before attempting to operate their newly acquired KW hybrid.

73
Mike W5RKL

48049. RE: TS830: Delayed receive recovery after transmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-09 00:04:01 UTC
From: <wagstw46@...>
Topic: 48043 Message: 48049

What does the Marker signal do in that 5 second delay period? If Marker signal is attenuated as well then problem cant be dirty ANT relay. If Maker signal is not attenuated then pull the ANT relay and clean the NC contact (actually clean all contacts while you have it out). If that doesnt help try replacing the Driver Tube.

Terry K9TW

48050. Re: [TS-520_820_530_830] D-104 and Kenwood TS-520 - wiring (again)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-09 01:37:16 UTC
From: <lpleach@...>
Topic: 48031 Message: 48050

Ken,
This looks like what I'm looking for. The only difference is that the switch defaults to the other position. No biggie.
I'm attaching a pic of the base wiring.
So here's what I have so far:

1. Connect one side of the mic element directly to the center conductor of the shielded wire.
Black wire of the mic to the center shielded wire. Check!

2. Connect the other side of the mic element to the shield which must not be connected to anything else in the base.
Green wire to shield wire. Check!

3. Connect the BLACK wire to the center, common, terminal of the SPDT switch.
Which black wire? The one from the cable? The one from the mic is already connected to the center shielded wire.

4. Connect the RED wire to the NO (Normally Open) terminal on the SPDT switch.
Red wire connected to the yellow wire. Schematic shows this as the NO side. It was already connected in the original wiring. Does it matter if it's on a tab/post or does it have to be directly connected only like the others?

Larry
KF5YZZ

48051. Re: [TS-520_820_530_830] TS-520 VOX issue

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-09 02:23:32 UTC
From: Daniel
Topic: 48040 Message: 48051

Wes,

I honestly thought I was doing something wrong. Thankfully, I sat down
with the manual and looked it up.

Daniel/KK4SWX

On 3/8/2014 4:17 PM, Wes Will wrote:
> On 03/08/2014 03:49 PM, Daniel Curry wrote:
> > I found and resolved my issue. On the left side of the rig is a panel
> hiding a few pots. Three of which are for controlling the VOX.
> >
> > Daniel/KK4SWX
>
> lololol
>
> Yep. Hidden, oh so very well hidden. Camouflaged, even. On page four
> of the TS-520 manual. Detailed settings information is in there, too.
>
> --
> Wes Will
> N9KDY
>
>

48052. Re: [TS-520_820_530_830] TS-520 VOX issue

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-09 04:20:16 UTC
From: Wes Will
Topic: 48040 Message: 48052

On 03/08/2014 08:23 PM, Daniel wrote:
> Wes,
>
> I honestly thought I was doing something wrong. Thankfully, I sat down
> with the manual and looked it up.
>
> Daniel/KK4SWX

Huzzah for manual-reading... Three cheers and all that. Wish there was more of that, in general, going on.

In my tenure running the technical side (someone else did the budget and bureau-crap-cy) of a university computer support hell(sic - I lost the "p" long ago) desk, I cannot think of a single day on the front lines when I didn't use the "RTFM" term ("Read That Fine Manual" or something like that...)

Or if the ID = 10T on the other end was high enough in the hierarchy, actually having to READ manuals to them over the phone. After a short time at this job, it got so ridiculous that I started reading out publication data (copyright dates, models covered, table of contents, and so on), even the PAGE NUMBERS, to rub in the fact that I was reading this stuff out loud to someone who was obviously too dense to read for themselves. Or was incapable of reading was the other sub-text. Piled Higher and Deeper, indeed.

Yes, I occasionally got a call from the powers that annoyed, but when the position from the other end amounted to "he was being mean to me" and from my end was "I read them the WHOLE BLOODY MANUAL OUT LOUD, over the phone, FOR AN HOUR AND A HALF!! What MORE could I POSSIBLY do?" it usually meant I won the battle, when the chips were down.

If you've never sat the phones in a call center, you cannot possibly understand the sheer depths of stupidity that make up the AVERAGE call. And then you realize, as STUPID as the average caller is, half of them are by definition EVEN DUMBER THAN THAT. It really gets to you, honestly, it actually does.

Look up "Three Dead Trolls In A Baggy" on the web. They're a comedy troupe with a techie bent. Find "Wesley" (Gee, wonder why I remember his name?) doing the "Internet Help Desk" routine. Any version, the stand-up without props, or the staged version with the whole setting. THAT was my typical day. Really. I think they stole a tape from our call center and just transcribed it, down to the, "ask an 8-year-old child for her help" part.

--
Wes Will
SysAdmin, RET.
N9KDY

48053. Equipment query. Anyone ever use MOTOROLA RF Millivolt Meter, model S-1340A??

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-09 07:55:28 UTC
From: Wes Will
Topic: 48040 Message: 48053

I think they're asking much too much for one, even if it has been gone through at a reputable place. I know Terry at least is a Boonton man, and I've used those meters in the past, they're good kit.

But if the Moto is as good, or at least a reasonably close second to a Boonton, what would be a -FAIR- price to pay for one? It's a model S-1340A, and it's currently in Mendon, Massachusetts, some outfit called "Tech Recovery." They tout expertise at recovering and refurbing used lab and test equipment of all sorts.

We'll assume leads/probes are included in the dicker (because, particularly at their asking price, it is a NO-GO without them), and that it includes all the other bits and parts needed to start using it out of the box. Top dollar you would expect to pay for one in working order?

They have a 30-day guarantee, and a 5-day buyer's-remorse clause for returning it for a full refund (less shipping costs, both ways). The company is not a bad outfit, it's just that I do NOT have a handle on the going rates for something as esoteric as an RF Millivolt meter.....

TIA, y'all.

--
Wes Will
N9KDY

48054. Re: [TS-520_820_530_830] D-104 and Kenwood TS-520 - wiring (again)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-09 11:32:07 UTC
From: Ken Winterling
Topic: 48031 Message: 48054

Larry,

Sorry for the delay but I was busy all day Saturday.

If you attached a picture to the message you sent through the reflector I did not receive it because the reflector strips attachments. When I sent the schematic to you I copied your personal e-mail address in addition to the reflector and that is why you received it. You need to copy (or send) it to my direct address, wa2lbi at gmail dot com.

Regarding step 3, connect the BLACK wire in the CABLE to the common terminal of the PTT switch.

As for step 4, if you are referring to the yellow wire that runs from the switch to the terminal on the tag strip then, yes, it is correct.

This is an extract from my original instructions to you for rewiring the base, minus the the two completed steps:
3. Connect the BLACK wire to the center, common, terminal of the SPDT switch.

4. Connect the RED wire to the NO (Normally Open) terminal on the SPDT switch.

On the rig end of the cable connect the specified wires to the plug pins:
Shielded center conductor to Pin 1 of the plug (mic hi)
RED wire to Pin 2 (PTT)
Black wire to Pin 3 (PTT ground)
Shield to Pin 4 (mic lo)

You are making progress. Keep us posted.

Ken
WA2LBI

On Sat, Mar 8, 2014 at 8:37 PM, <lpleach@...> wrote:

>
>
> Ken,
> This looks like what I'm looking for. The only difference is that the
> switch defaults to the other position. No biggie.
> I'm attaching a pic of the base wiring.
> So here's what I have so far:
>
> 1. Connect one side of the mic element directly to the center conductor of
> the shielded wire.
> Black wire of the mic to the center shielded wire. Check!
> 2. Connect the other side of the mic element to the shield which must not
> be connected to anything else in the base.

> Green wire to shield wire. Check!
> 3. Connect the BLACK wire to the center, common, terminal of the SPDTswitch.
> Which black wire? The one from the cable? The one from the mic is
> already connected to the center shielded wire.
> 4. Connect the RED wire to the NO (Normally Open) terminal on the SPDTswitch.
> Red wire connected to the yellow wire. Schematic shows this as
> the NO side. It was already connected in the original wiring. Does it
> matter if it's on a tab/post or does it have to be directly connected only
> like the others?
>
> Larry
> KF5YZZ
>
> _
>

48055. RE: Equipment query. Anyone ever use MOTOROLA RF Millivolt Meter, model S-1340A??

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-09 12:54:46 UTC
From: <wagstw46@...>
Topic: 48040 Message: 48055

Boonton made the S1339A (analog) and the S1340A (digital) for Motorola.

I previously owned a S1339A and it is identical inside to a Boonton 92E. I have not seen the inside of a S1340A. I think it is same as a 42BD but not certain.

Millivac and Ballantine also made RF millivolt meters. The Millivac 823B is a good analog mirrored scale meter. Dont see these as often as the Boontons. Key is to make sure you get a good probe and probe accessories with which ever one you buy. Probes can sell for as much or more than the voltmeter.

Probe diodes (usually two in a doubler config) are proprietary and often are burned out as people dont understand the rf voltage limitation. Most of these probes will read 1Ghz, but can replace the diodes with germanium signal and recal the unit and be close enough for KW hybrid frequency ranges.

Probes usually come with a 50 ohm BNC termination adapter and a straight thru BNC adapter and of course you will need the 40db adapter (100:1 voltage divider) to read above 3 volts (driver tube plate and finals control grids rf drive levels). Before I could find a good 40dB adapter I used my Heath VTVM and PK-3 probe to measure Driver tube plate and 6146 control grids rf voltage. That works just fine. Where the VTVM and RF probe fall down is at the lower signal levels.

I think Dick W0NTA is a Millivac man and Ken K4EAA is a Ballentine man.

Terry

48056. RE: TS830: Delayed receive recovery after transmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-09 13:16:46 UTC
From: <alan_wolf69@...>
Topic: 48043 Message: 48056

Terry
Thanks. The marker signal is also slow to recover, so the problem is not the antenna relay. At least I won't go down that dead end. However, replacing the driver tube made no improvement. In fact, the problem persists even if the filaments are turned off. I think I recall you saying that there are some biasing circuits around the driver tube that could cause this sort of problem. Can you direct me a little more? I have a scope and DVM.
Thanks. Al K2QU

48057. Re: [TS-520_820_530_830] RE: Equipment query. Anyone ever use MOTOROLA RF Millivolt Meter, model S-1340A??

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-09 14:38:27 UTC
From: K5MYJ
Topic: 48040 Message: 48057

How many hams need a RF milivolt meter that works above 250MHz?

There are a lot of Boonton meters on eBay that are missing the probes. When loose probes are offered on eBay they are expensive and there really is no guarantee they work.

The problem with the probes is the MAGIC DIODES.

I have been studying how to may reasonable replacement probes. But currently I cannot test above 250MHz.

I know how the probes work and I am building a copy of the 2500 calibrator. This calibrates the meter not the probes.

The probes are calibrated at 1MHz.

I'm thinking about a chopper replacement for the earlier meters also. That is the high failure item. There is a design for a replacement input board that looks good.

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"
----- Original Message -----
From: wagstw46@...
To: TS-520_820_530_830@yahoogroups.com
Sent: Sunday, March 09, 2014 5:54 AM
Subject: [TS-520_820_530_830] RE: Equipment query. Anyone ever use MOTOROLA RF Millivolt Meter, model S-1340A??

Boonton made the S1339A (analog) and the S1340A (digital) for Motorola.

I previously owned a S1339A and it is identical inside to a Boonton 92E. I have not seen the inside of a S1340A. I think it is same as a 42BD but not certain.

Millivac and Ballantine also made RF millivolt meters. The Millivac 823B is a good analog mirrored scale meter. Dont see these as often as the Boontons. Key is to make sure you get a good probe and probe accessories with which ever one you buy. Probes can sell for as much or more than the voltmeter.

Probe diodes (usually two in a doubler config) are proprietary and often are burned out as people dont understand the rf voltage limitation. Most of these probes will read 1Ghz, but can replace the diodes with germanium signal and recal the unit and be close enough for KW hybrid frequency ranges.

Probes usually come with a 50 ohm BNC termination adapter and a straight thru BNC adapter and of course you will need the 40db adapter (100:1 voltage divider) to read above 3 volts

(driver tube plate and finals control grids rf drive levels). Before I could find a good 40dB adapter I used my Heath VTVM and PK-3 probe to measure Driver tube plate and 6146 control grids rf voltage. That works just fine. Where the VTVM and RF probe fall down is at the lower signal levels.

I think Dick W0NTA is a Millivac man and Ken K4EAA is a Ballentine man.

Terry

48058. Replacing the HV Caps

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-09 15:40:22 UTC
From: <bsa0791@...>
Topic: 48058 Message: 48058

I'm replacing the HV caps in the 530. I have not pulled the originals but I don't see a polarity mark. I know these are connected in series. Just want to confirm, the red goes to the positive side to the first cap, the blue wire comes off the negative and goes over to the positive of the next cap, finally the black comes off the negative. Just want to make sure before I jump on the job.

Thanks Brian kb4mng

48059. Re: [TS-520_820_530_830] RE: Equipment query. Anyone ever use MOTOROLA RF Millivolt Meter, model S-1340A??

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-09 16:14:43 UTC
From: <wagstw46@...>
Topic: 48040 Message: 48059

"Most of these probes will read 1Ghz, but can replace the diodes with germanium signal and recal the unit and be close enough for KW hybrid frequency ranges."

Where does my post say anything about needing to measure above 250mhz??????

I clearly stated that damaged probes can be repaired by using germanium signal diodes for the work a KW hybrid owner will want to do.

Very easy to obtain a very accurate calibrator. Every HP-435A/B Microwatt meter has a nice front panel calibrated 50mhz 0 dBm (224mv) output. Can buy these meters all the time for around $50 bucks without the probe. I bought two more at Dayton last year and bought one off the HP reflector by asking. Just check to see that the cal screw access cover paint hasnt been disturbed. Dont need the meter to work just the power supply and the calibrator module. Take the output into your step attenuator and can cal the lower ranges of your RF millivolt meter.

If you want to build a simple rf voltage calibrator go to W1GHZ website and see his RF power reference kit. I built it first before became aware of using the HP435 or similar. http://w1ghz.org/10g/10g_home.htm http://w1ghz.org/10g/10g_home.htm

Terry K9TW

---In TS-520_820_530_830@yahoogroups.com, <macklinbob@...> wrote :

☐ How many hams need a RF milivolt meter that works above 250MHz?

There are a lot of Boonton meters on eBay that are missing the probes. When loose probes are offered on eBay they are expensive and there really is no guarantee they work.

The problem with the probes is the MAGIC DIODES.

I have been studying how to may reasonable replacement probes. But currently I cannot test above 250MHz.

I know how the probes work and I am building a copy of the 2500 calibrator. This calibrates the meter not the probes.

The probes are calibrated at 1MHz.

I'm thinking about a chopper replacement for the earlier meters also. That is the high failure item. There is a design for a replacement input board that looks good.

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"
----- Original Message -----

From: wagstw46@... mailto:wagstw46@...
To: TS-520_820_530_830@yahoogroups.com mailto:TS-520_820_530_830@yahoogroups.com
Sent: Sunday, March 09, 2014 5:54 AM
Subject: [TS-520_820_530_830] RE: Equipment query. Anyone ever use MOTOROLA RF Millivolt Meter, model S-1340A??

Boonton made the S1339A (analog) and the S1340A (digital) for Motorola.

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I think Dick W0NTA is a Millivac man and Ken K4EAA is a Ballentine man.

Terry

48060. RE: TS830: Delayed receive recovery after transmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-09 16:43:02 UTC
From: <wagstw46@...>
Topic: 48043 Message: 48060

Yes if the Driver tube is slow to transition from operating bias to cutoff bias you will have cathode current flowing and it will cause IR drop across R35 which will forward bias D2 protection diode and it will shunt RF signal voltage at Gate 1 of Q1 RF amp mosfet protecting it from damage from your internal Driver stage transmit RF output.

I know you replaced RL-1 which is the normal culprit, but could still be something going on with RB1 and RLR. RB1 is the dc bias for Q1 RF amp and RLR turns on switch Q5 that grounds the Source leads for all the front end active devices. You could meter both of these on the RF board to see if they transition instantly. In RX mode RB-1 will be approx 1.0vdc and RLR will be approx 8.9vdc. May be hard to do this with a DMM as wont have much time to watch it count and settle out. Another reason why I and Mike continue to hammer home a good old fashioned Heath or similar VTVM for KW hybrid work.

I suppose could also wiggle the associated Molex connectors or very carefully remove and clean them. Would include Conn 5,6,7 on Audio Board and Conn 3 and 8 on RF board.

If had a good RF sig gen could also inject 8.830mhz at RIF TP-2 and see if good audio level and S-meter indication during that 5 second delay. If so you would know the problem is on the RF board and not IF board.

Terry

48061. Re: [TS-520_820_530_830] D-104 and Kenwood TS-520 - wiring (again)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-09 14:36:59 UTC
From: <lpleach@...>
Topic: 48031 Message: 48061

OK, I sent you the picture to your address.

So now the center terminal has the black wire from the cable.
The only thing left is the normally closed (white/green) wire connected to nothing.
Is this the grounded side that you were referring to?
Here's the part that may be the most confusing for me. looking at the schematic. The center common switch shows that it goes to ground, and there is no wire for that. Like it's grounded to the base or something, inside the handle.
The terminal strip shows terminal A is grounded. There's nothing on that terminal now.
Terminal B has the black wire from the cable.
Terminal C has the red wire and the yellow wire.
The white/green wire was originally connected to the terminal B.

Larry
KF5YZZ

48062. Re: [TS-520_820_530_830] RE: Equipment query. Anyone ever use MOTOROLA RF Millivolt Meter, model S-1340A??

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-09 16:58:46 UTC
From: K5MYJ
Topic: 48040 Message: 48062

Terry,

You never said anything about needing a probe that works above 250MHz.

I'm just wondering if it would be worth my time to make probes for these meters that will work up to 250MHz.

I have Tektronics calibrator good to 5mV. I also have a working Boonton 93A. Probe calibration is done at 1MHz.

The reason I am thinking about this is that probably 9 out of 10 Boonton 92s offered on eBay are minus the probes.

And their working condition is really unknown.

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"
----- Original Message -----
From: wagstw46@...
To: TS-520_820_530_830@yahoogroups.com
Sent: Sunday, March 09, 2014 9:14 AM
Subject: Re: [TS-520_820_530_830] RE: Equipment query. Anyone ever use MOTOROLA RF Millivolt Meter, model S-1340A??

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Terry K9TW

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☐
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From: wagstw46@...
To: TS-520_820_530_830@yahoogroups.com
Sent: Sunday, March 09, 2014 5:54 AM
Subject: [TS-520_820_530_830] RE: Equipment query. Anyone ever use MOTOROLA RF Millivolt Meter, model S-1340A??

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Millivac and Ballantine also made RF millivolt meters. The Millivac 823B is a good analog mirrored scale meter. Dont see these as often as the Boontons. Key is to make sure you get a good probe and probe accessories with which ever one you buy. Probes can sell for as much or more than the voltmeter.

Probe diodes (usually two in a doubler config) are proprietary and often are burned out as people dont understand the rf voltage limitation. Most of these probes will read 1Ghz, but can replace the diodes with germanium signal and recal the unit and be close enough for KW hybrid frequency ranges.

Probes usually come with a 50 ohm BNC termination adapter and a straight thru BNC adapter and of course you will need the 40db adapter (100:1 voltage divider) to read above 3 volts (driver tube plate and finals control grids rf drive levels). Before I could find a good 40dB adapter I used my Heath VTVM and PK-3 probe to measure Driver tube plate and 6146 control grids rf voltage. That works just fine. Where the VTVM and RF probe fall down is at

the lower signal levels.

I think Dick W0NTA is a Millivac man and Ken K4EAA is a Ballentine man.

Terry

48063. Re: [TS-520_820_530_830] RE: Equipment query. Anyone ever use MOTOROLA RF Millivolt Meter, model S-1340A??

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-09 17:41:55 UTC
From: <wagstw46@...>
Topic: 48040 Message: 48063

OK I mis-understood you when 250mhz comes right on heels of what I posted. I thought it was a challenge and not a question. If a question you are the only one who can say if you need a RF millivolt meter that has a calibrated frequency response greater than 250mhz. Even Heathkit rated their 309C and PK-3 rf probes to 250mhz. Depends of course on what you work on. I typically dont work on anything above 2 meters and not much of that anymore.

Boonton has a low frequency probe but seldom see them. It is a 91-4C at 1khz to 250mhz operating range. I would like to have one and have posted couple of times on QTH and QRZ and came up empty.

If you use the 40dB capacitive divider the Boontons are good up to 700mhz instead of 1.2ghz.

I dont know where you are getting the probes are calibrated at 1mhz? Probes are always calibrated with the instrument to be used with. The periodic calibration of the meter and probe combo if done by the Boonton Model 26A calibrator is done at 1mhz as that is the Calibrator output frequency. No idea why they made a 1 mhz calibrator other than easier to build. I prefer to use the HP435A/B 50mhz calibrator. Can use it for your RV millivolt meter, your O-scope, and your freq counter. Actually a 14 mhz calibration frequency would serve my needs quite well for Hybrid work.

If you look at the service manual for the 92E you will see Probe Testing is done at much higher frequencies than 1 mhz. That testing includes SWR and Frequency Response measurement. The testing frequency for that is done with a variable 10mhz to 1200mhz frequency range signal source ie a high end calibrated RF signal generator and not a 1mhz calibrator.

One good thing about the Boonton probes is that the input capacitance ranges from approx 0.8pf to 1.5pf so wont be pulling or loading any oscillators.

Yes people strip off the probes on these just as they do on the HP power meters and of course you never know if any RF millivolt meter or probe is any good off Ebay or any other source. You take a chance when you buy one just like any other used and vintage electronic purchase so must understand your right of return.

Terry K9TW

48064. Re: [TS-520_820_530_830] D-104 and Kenwood TS-520 - wiring (again)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-09 17:59:56 UTC
From: Ken Winterling
Topic: 48031 Message: 48064

Larry,

I got the picture. That matches the diagram I sent to you.

Just tape off or cover that white/green wire so it doesn't touch anything
or remove it completely. It is the NC (Normally Closed) side of the switch
that would ground the mic when the PTT is released.

If you look at the diagram you will see that mic pins 1 & 2 at the top of
the mas are connected together and, IIRC, that will short one side of the
mic element to ground.

It has been a long time since I opened up the mast of one of those stands
so I do not recall how they are wired. Frankly, I use an ohm meter to
investigate, and later check, my work. I would put your ohm meter on the
suspect wires/connections and see if there are any shorts and to verify the
PTT switch operation.

Ken
WA2LBI

On Sun, Mar 9, 2014 at 10:36 AM, <lpleach@...> wrote:

>
>
> OK, I sent you the picture to your address.
>
>
> So now the center terminal has the black wire from the cable.
>
> The only thing left is the normally closed (white/green) wire connected to
> nothing.
>
> Is this the grounded side that you were referring to?
>
> Here's the part that may be the most confusing for me. looking at the
> schematic. The center common switch shows that it goes to ground, and there
> is no wire for that. Like it's grounded to the base or something, inside
> the handle.
>
> The terminal strip shows terminal A is grounded. There's nothing on that
> terminal now.
>
> Terminal B has the black wire from the cable.
>
> Terminal C has the red wire and the yellow wire.
>

> The white/green wire was originally connected to the terminal B.
>
>
> Larry
> KF5YZZ
>

48065. Re: [TS-520_820_530_830] RE: Equipment query. Anyone ever use MOTOROLA RF Millivolt Meter, model S-1340A??

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-09 18:04:01 UTC
From: K5MYJ
Topic: 48040 Message: 48065

Terry,

My point was 250MHz is good enough for most ham radio work. And we can make probes that will work OK to 250MHz.

The calibration is a separate problem. As you said the meter is calibrated with the probe. How many hams will probably have a RF reference standard?

The 1MHz testing is just what I have read about calibrating using the Model 26A test reference.

I have a Tek 191 scope calibrator that is good to 100MHz.

My real question is it worth the effort to make these meters usable for people with limited recourses? Or does the average ham need any more than a Heath RF probe? Both 1 diode and 3 diode probes. They are no problem to make.

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"
----- Original Message -----
From: wagstw46@...
To: TS-520_820_530_830@yahoogroups.com
Sent: Sunday, March 09, 2014 10:41 AM
Subject: Re: [TS-520_820_530_830] RE: Equipment query. Anyone ever use MOTOROLA RF Millivolt Meter, model S-1340A??

OK I mis-understood you when 250mhz comes right on heels of what I posted. I thought it was a challenge and not a question. If a question you are the only one who can say if you need a RF millivolt meter that has a calibrated frequency response greater than 250mhz. Even Heathkit rated their 309C and PK-3 rf probes to 250mhz. Depends of course on what you work on. I typically dont work on anything above 2 meters and not much of that anymore.

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meter, your O-scope, and your freq counter. Actually a 14 mhz calibration frequency would serve my needs quite well for Hybrid work.

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Yes people strip off the probes on these just as they do on the HP power meters and of course you never know if any RF millivolt meter or probe is any good off Ebay or any other source. You take a chance when you buy one just like any other used and vintage electronic purchase so must understand your right of return.

Terry K9TW

48066. Re: [TS-520_820_530_830] RE: Equipment query. Anyone ever use MOTOROLA RF Millivolt Meter, model S-1340A??

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-09 18:08:06 UTC
From: <wagstw46@...>
Topic: 48040 Message: 48066

I forgot to mention one other option and that is a refurbed HP-410C VTVM with the "active" 11036A RF probe (It has diode tube in the probe). This kills two birds with one stone as you end up with a 100meg ohm input Z VTVM that allows AGC and ALC bus work and a RF millivolt meter. Not cheap but a real nice piece of test gear.

I have the 100:1 HP453A capacitive divider probe and the 11042A RF Tee for mine, but seldom use them. I can actually measure the RF voltage (greater than 500rf volts) across the KW Hybrid tank capacitor with this meter. The limitation is that the active AC probe doesnt go down as low as the Boonton or other RF millivolt meters. Its lowest range is approx 500mv where the Boonton is 1mv. About only thing you could not measure would be the TIF signal level, but could read RF drive level at TX Mixer and Driver tube plate and 6146 control grids.

You can read all but TIF with Heath VTVM and a 309C and PK-3. Just have to keep the probes straight in your mind. I placed dymo labels on mine so I dont accidently reach for the wrong one. Of course with right O-scope and probe combo can read all of the levels. I just got a P5100 probe so I can do some tank circuit work with my O-scope.

Terry K9TW

48067. RE: [TS-520_820_530_830] RE: Wire wrap

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-09 18:41:54 UTC
From: Brad Allen
Topic: 47983 Message: 48067

Wire Wrap is used throughout the telephone industry wired and wireless. There is a proper method by bell standards. No niche in the wire when stripping, at least enough wire to produce 5 wraps on the post which equates to about an inch and a half of bare wire. They make hand wrap tools for a number of gauges as well as hand type guns and an electric wrap gun. I have used all three in my 40 year telephone career as well as soldering in the older central offices. Brad KB2CHY

From: TS-520_820_530_830@yahoogroups.com
[mailto:TS-520_820_530_830@yahoogroups.com] On Behalf Of wagstw46@...
Sent: Wednesday, March 05, 2014 10:56 AM
To: TS-520_820_530_830@yahoogroups.com
Subject: [TS-520_820_530_830] RE: Wire wrap

No KW factory did not solder any of the wire wraps.

Wire wrap is a very old and reliable termination method. If done correctly never a reason to solder. The soft copper actually deforms against the sharp edges of the hardened post and oxide coating is broken and very high contact pressure is developed and typical contact resistance is < 1.0 milliohms. The wraps are actually gas tight so connections are good for 40 plus years. Navy avionics did a lot of testing on this type of termination. Can find some interesting white papers on this subject.

When you remove a wire wrap must cut off all the old wire from the lead and not attempt to re-use it in any manner as it has work hardened. You can strip back and rewrap with proper size hand tool available from Jonard and Cooper and others, but I just file the post to brite metal and make couple of wraps near top and tack solder the lead back on. .

Terry K9TW

48068. RE: TS830: Delayed receive recovery after transmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-09 19:07:21 UTC
From: <alan_wolf69@...>
Topic: 48043 Message: 48068

Terry
Thanks. I will keep you posted. I have other tasks on the plate this week - but I now have a path forward for the trouble shooting.

48069. Re: [TS-520_820_530_830] Replacing the HV Caps

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-09 19:09:38 UTC
From: Joseph Stiles
Topic: 48058 Message: 48069

Brian,

It does not really matter what color wire(maybe prior work)...as long as it goes to the same place. IF... the HV caps are original then: with the rig bottom up, front facing you.. the HV cap on (now your right), the NEG which should be marked with a black identification
spot on the connector (black wire)...goes to the ground post...the Positive (+) RED goes to the other HV caps BLACK terminal.....the POSITIVE (red wire) goes to the rectifier board.

It is not that difficult. Make a drawing or take pictures.....every Electrolytic capacitor is marked in some way to indicate...which terminal which is negative/positive. If in doubt...may I suggest a review of some basic capacitor markings

Just make note of the orientation and wire color or the originals....and reinstall according to
that. You may have to substitute another color wire..as from memory...they may be soldered to the old HV caps. Unsoldering and unwrapping them may break of too much wire to re-use.

All you need to do is pay attention...the old HV caps ARE marked for polarity.

73 Joe
WB7UQU

On Sunday, March 9, 2014 8:40 AM, "bsa0791@..." <bsa0791@yahoo.com> wrote:

>I'm replacing the HV caps in the 530. I have not pulled the originals but I don't see a polarity mark. I know these are connected in series. Just want to confirm, the red goes to the positive side to the first cap, the blue wire comes off the negative and goes over to the positive of the next cap, finally the black comes off the negative. Just want to make sure before I jump on the job.
>
>Thanks Brian kb4mng
>
>
>

48070. Kenwood Hybrid Net Update - March 9, 2014

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-09 19:21:12 UTC
From: Mark Gilger
Topic: 48070 Message: 48070

Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

Dayton Hamvention Kenwood Legacy Forum:
This year will be the first year for the Kenwood
Hybrid Legacy Forum to be held at the Dayton
Hamvention. The forum will be Sunday May 18th.,
room #2, 10:30 □ 11:30. The following preliminary agenda has been proposed:

* History of the legacy products.
* Resource help with parts, documentation, etc..
* SDR integration into the legacy line.
* Rewinding a TS-830 L41 coil.
* Tips & Hints.
* Questions and Answer Technical Session

We hope to see you there.

The net recently celebrated it□s 2nd year in
existence on November 1st, 2013. The yearly
check-in totals are posted at the bottom of this
message. It showed we had a 10% increase in our
Saturday check-ins and an 8% on Sunday as compared to the 2012 check-ins.

The Saturday 40 meter net had 25 stations
checking in under good band conditions. There
were 9 new stations checking in, KF9CE, KA8GUN,
KD9WNQ, KD2DQA, N9LGQ, N9VVP, W9DGK, KC9ECI, and
KD8LCM. We had the following number of radios checking in.

5 running TS-520(x)
3 running TS-530(x)
2 running TS-820(x)
2 running TS-830S

I was running my TS-830s with an L4B amplifier.

The Sunday 20 meter net we had 30 check-in under
good band conditions. There were 4 new check-ins,
WB0CJB, KC9WKY, N8VKX, and KD0VEP. We had the following number of radios.

3 running TS-520(x)
2 running TS-530(x)
4 running TS-820(x)
5 running TS-830S

I was running my TS-820s twins, the TS-820s & R820.

We have been having several people checking in
regularly with their TS-430, TS-440, and
TS-940□s, which of course is not a hybrid,
although over 30+ years old. Everyone is welcome
as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a
net control station, please send me an email.
Currently it's just myself, WB2KNR and WB0SGA. I
would like to get several more. If we do, we can
alternate so everyone might be on a 3-4 week
rotation. It's a lot of fun and a good way to
make sure you station is optimized.

For anyone that has not heard, we have a new web
site that WB4HFN is hosting. He currently has a
very nice site for Drake, Collins and Heathkit
and now Kenwood Hybrids. Good quality manuals
plus sale flyers and brochures will be found
here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 □ Oct. 2012 Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins

November 2013, Saturday□s net total = 94, Sunday□s total = 85
December 2013, Saturday□s net total = 87, Sunday□s total = 103
January 2014, Saturday□s net total = 71, Sunday□s total = 82
February 2014, Saturday□s net total = 80, Sunday□s total = 85
March 2014, Saturday□s net total = 45, Sunday□s total = 30 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
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Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

48071. Re: [TS-520_820_530_830] Replacing the HV Caps

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-09 19:22:21 UTC
From: Joseph Stiles
Topic: 48058 Message: 48071

amplifying information,

  the wire color scheme may be different between models...820 vs 530/830 ...a blue for a red...etc...
just make a drawing/notes and re-install new HV cap according to the previously made wiring diagram

73 Joe
WB7UQU

On Sunday, March 9, 2014 12:12 PM, Joseph Stiles <stilesjoseph@...> wrote:

>Brian,
>
>It does not really matter what color wire(maybe prior work)...as long as it goes to the same place. IF... the HV caps are original then: with the rig bottom up, front facing you..
>   the HV cap on (now your right), the NEG which should be marked with a black identification
>spot on the connector (black wire)...goes to the ground post...the Positive (+) RED goes to the other HV caps BLACK terminal.....the POSITIVE (red wire) goes to the rectifier board.
>
> It is not that difficult. Make a drawing or take pictures.....every Electrolytic capacitor is marked in some way to indicate...which terminal which is negative/positive.
>If in doubt...may I suggest a review of some basic capacitor markings
>
> Just make note of the orientation and wire
color or the originals....and reinstall according to
>that. You may have to substitute another color wire..as from memory...they may be soldered
>to the old HV caps. Unsoldering and unwrapping them may break of too much wire to re-use.
>
> All you need to do is pay attention...the old HV caps ARE marked for polarity.
>
>
>
>
>73 Joe
>WB7UQU
>
>
>
>On Sunday, March 9, 2014 8:40 AM, "bsa0791@..." <bsa0791@yahoo.com> wrote:
>
>
>>I'm replacing the HV caps in the 530. I have not pulled the originals but I don't see a polarity mark. I know these are connected in series. Just want to confirm, the red goes to

the positive side to the first cap, the blue wire comes off the negative and goes over to the positive of the next cap, finally the black comes off the negative. Just want to make sure before I jump on the job.
>>
>>Thanks Brian kb4mng
>>
>>
>
>
>

48072. TS-520 Frequency Jump on Transmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-09 19:31:01 UTC
From: <bgaston@...>
Topic: 48072 Message: 48072

Have had this happen several times in the last few days--a new problem on what has been a great, stable radio. I always let it warm up for about an hour before running it, and am OK with some slight, slow drifts that the waterfall can follow. This is just absurd.

First it started on JT-65, running about 10 watts, the radio would be rock stable for 2-3 QSOs, then after a transmit cycle, I'd click back to receive and be 5-10 khz away from where I hit transmit. I'd go find the waterfall again, get through 1-2 transmit cycles, and it would jump AGAIN, and the waterfall would be where I had originally started out the first time on the dial--said another way, it jumps equally back the other direction. No, I am NOT bumping the VFO.

Another time it's done it, it did the same 5khz jump one way on SSB, go find the pileup again on the dial, call again, silence. Then go find them again where I started.

It's done it also while running PSK, and the waterfall jumps 1-2khz one direction, then slowwwwwwly shifts back to where it was. Has also made the 5Khz jump all the way over to the JT-65 segment then back to PSK.
Any ideas? I originally cleaned the VFO and sprayed the wiper with De-Oxit when I got the radio and went through the initial "pulling it out of mothballs" process. Have had no clicks, pops, or magic smoke. From my limited knowledge, it almost seems to me to be a capacitor that might be failing somewhere, or something funny going on in the VFO itself.

Thanks in advance guys.
de KV4RH, Ben

48073. Re: [TS-520_820_530_830] RE: Equipment query. Anyone ever use MOTOROLA RF Millivolt Meter, model S-1340A??

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-09 20:12:04 UTC
From: <wagstw46@...>
Topic: 48040 Message: 48073

Average KW Hybrid owner can get by just fine with VTVM or DMM and classic germanium signal diode probes. Just cant read TIF signal level from the IF board. This has been stated here over and over again by me and others. I cant tell you how many times I and at least Mike W5RKL counsel new hams and new KW hybrid owners that have no test gear that the Heath IM-18 VTVM and associated probes (or similar model) should be their very first test gear purchase.
Wes Will posted and asked about the Motorola RF millivolt meter brand. That is what I responded to and not to whether he needed an RF millivolt meter or not. Need is a relative term. I would not be without one.

For those who like to build the AD8307 log chip based analog power meter and now the PIC based version is also a very inexpensive way to go. With a Goggle search can find QEX and QST and numerous other articles on how to build this meter. Problem with this route is still need means to calibrate it and I have already provided two easy ways to do that.

Terry K9TW

48074. RE: Replacing the HV Caps

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-09 20:32:11 UTC
From: <wagstw46@...>
Topic: 48058 Message: 48074

Are you using the Black Nichicon GN type caps that Ken K4EAA sells?

If so, be careful and do not mistake the cross hatch pattern embossed on the terminal rivet head as the positive terminal. It is the Negative terminal.

Pay attention to the polarity stripe on the capacitor vinyl cover. The grey stripe denotes the negative terminal. The oblong or oval circles are not zeros they are minus signs on that polarity stripe.

Terry K9TW

48075. TS-530 final bandswith coupler, lost alignment.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-09 20:55:16 UTC
From: <donhoover@...>
Topic: 48075 Message: 48075

Ok, this TS-530 of mine I am trying to rescue and give a loving home for another 20 years, needs a new bandswitch coupler in the finals. I have taken the old plastic one out that was clearly cracked in a couple of places and pretty much not working, and I have a nice new brass one I got from Ken/K4EAA to replace it with.

However, the old split coupler had apparently gotten so loose on this radio that the bandswitch rod was able to turn without turning the corresponding switch rod its supposed to be coupled with in the finals section, so I was not able to mark for sure how the rod ends were supposed to match up before installing this coupler.

How can I figure out the proper matchup of the two rod peices before I tighten up the new coupler? Is there a way to visually figure out the position of that switch in the finals section and then match the position of the bandswitch to the same band?

Thanks!

Don
WS4E.

48077. Re: [TS-520_820_530_830] TS-530 final bandswith coupler, lost alignment.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-10 00:48:59 UTC
From: Joseph Stiles
Topic: 48075 Message: 48077

Don,

Ok...let's start at the final cage: NO POWER....and unplugged...check for HV...none OK

looking at S-22...the tank coil selector switch in the final cage.. there are 2 flat areas on the
short piece of shaft...with the front of the rig to your left...and the right side of the rig facing you
...there should be one flat facing you...or at 3 o'clock...and another one facing down...or 6 o'clock.

Now the switch wafers:

You will notice that there is a white plastic middle...look for the indented circle...there are two..but one is more indented than the other...all those " indented circles"must face to "nine o'clock"(front of rig facing you....top side up)...also the flats of where the shaft goes through should be at 3 & 9 o'clock...round parts 12 & 6 o'clock.

Take shaft...with knob attached....white mark of band switch knob facing "10" that's TEN....NOT 10 meters...and slid through front panel...wafer switches and onto new band switch coupler.

Make sure and check your work...and check your work again.....snug up set screws. Check for proper operation

73 Joe
WB7UQU

On Sunday, March 9, 2014 3:23 PM, "donhoover@..." <donhoover@...> wrote:

>Ok, this TS-530 of mine I am trying to rescue and give a loving home for another 20 years, needs a new bandswitch coupler in the finals. I have taken the old plastic one out that was clearly cracked in a couple of places and pretty much not working, and I have a nice new brass one I got from Ken/K4EAA to replace it with.
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>
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>
>
>Thanks!
>
>
>Don
>WS4E.
>
>
>

48079. DDS VFO 530 830 Update 3/9/2014

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-10 01:11:25 UTC
From: <cocobean64@...>
Topic: 48079 Message: 48079

Uploaded pics to the gallery.....
Posted a Youtube vid. (may still need some time to finish processing)
http://youtu.be/tGurMic0CZI http://youtu.be/tGurMic0CZI

73
Bart

48080. Re: [TS-520_820_530_830] RE: Equipment query. Anyone ever use MOTOROLA RF Millivolt Meter, model S-1340A??

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-10 01:38:54 UTC
From: Wes Will
Topic: 48040 Message: 48080

> The reason I am thinking about this is that probably 9 out of 10 Boonton 92s offered on eBay are minus the probes.

Bingo. And why I am NOT looking at the auction sites for this Motorola meter. The seller will verify the probe comes with, or no sale. I'm NOT going to be putzing around looking for probes. Buildng one, perhaps. Doing a 3-diode probe for my Heathkit VTVM right now. (RE-building one I smoked, actually. Got onto the wrong circuit and boy howdy, even three diodes aren't going to carry that much current. Cooked the diodes, cooked the capacitor. The resistor got hot enough that it isn't anywhere close to 4.7M Ohms. Almost 12 megs, now, and just a little on the brown side.... So, I'm rebuilding it.

Are the probes for the Boontons and their ilk home-brewable? They frankly shouldn't be that much different than the VTVM diode probes. (I'm NOT talking about he active vacuum tube diode probes, obviously.) What's under the hood of a Boonton probe?

Terry: THANKS for the calibrator ideas. Why the idea of using the cal circuit of one of these other meters didn't cross my mind on it's own? I guess I'm not all that smart, all I can see. But now you've mentioned it there are obviously a lot of choices. Finding the cheapest one and getting my hands on it is the next step.

I'm also interested in the Raspberry Pi and Arduino meter options. I've been avoiding diving into Pi because I've already got enough irons in the fire, but making a meter replacement from one might be enough to tip me over that edge.

Thanks for the ideas.

--
Wes Will
N9KDY

48081. RE: [TS-520_820_530_830] RE: Wire wrap

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-09 21:37:10 UTC
From: Jon & Jan
Topic: 47983 Message: 48081

We used wirewrap extensively in the 70's and 80's in the engineering department ... for prototyping new circuits and building of production test equipment. The advent of cheap printed circuit boards in small qty, as well as circuit-layout software, doomed its use in that area. Wirewrap was so reliable, it was also used extensively in the nav. computers aboard Navy submarines. I still like to use it at home.

Jon, KØFOP

this post/msg edited/trimmed as it contained already posted material- Joe-WB7UQU

48082. RE: TS-520 Frequency Jump on Transmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-09 21:39:08 UTC
From: <bgaston@...>
Topic: 48072 Message: 48082

Update: Did some more trials. Looks like after 1-2 transmit cycles, the receiver "switches back" to EXACTLY where it was before the "jump". For example, trying on PSK31, the transmit cycle ends, and I'm out in left field with no signals nearby. Cycle a test tone transmit once or twice, and I flip back to EXACTLY back where I started in the first place, with the traces on the SAME QSOs.

48083. Re: Using DFC 320 with either TS-530SP or TS-830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-09 21:47:24 UTC
From: <fortra@...>
Topic: 48083 Message: 48083

Hi Guys,

acquired my first TS-530SP and DFC-230 a couple of weeks ago.
Has connected DFC-230 with TS-530SP and find out that either XIT or RIT
on trcvx is not working....:(Is there any modifications where you have to unsoldered
some contacts on VFO cord of DC 230 in order to have fully functional RIT/XIT...

Also if i use DFC-230 with probale and new additional hybrid as an TS-830S, am i going to
have same problem ?

In nutshell, how compatible is DFC-230 with TS-530S and/or TS-830S??
(That is meant, using it as an + external VFO in place of original VFO 230/240 ??)
When studying the diagrams there are some "extra" contacts not being used when
TS-530SP or TS-830S are used with Original VFO 240 ....

Any clue guys?

Thanks Nermin S58DX

p.s.what a radio, what a receiver, reliving at least :)
Has TS-2000, TS-870S, TS-930S, TS-480S....
All digital except TS-930S :)

48084. RE: [TS-520_820_530_830] DDS VFO 530 830 Update 3/9/2014

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-10 04:34:49 UTC
From: Jim Best
Topic: 48079 Message: 48084

Great info Bart. This is an excellent video.

Thanks for keeping us all in the loop.

73 Jim

WU7G

Uploaded pics to the gallery.....

Posted a Youtube vid. (may still need some time to finish processing)

http://youtu.be/tGurMic0CZI

73

Bart

48085. Re: [TS-520_820_530_830] RE: Equipment query. Anyone ever use MOTOROLA RF Millivolt Meter, model S-1340A??

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-10 10:41:31 UTC
From: <wagstw46@...>
Topic: 48040 Message: 48085

With your 3 diode PK-3 did you use a dc blocking/coupling cap as the first element?

Sounds like you may have been measuring something like Driver tube plate RF drive voltage where there is 340vdc (which is fine thing to do) to get the kind of current that would do that level of damage. Need something on order of .001uf cap (value not too critical) at minimum of 500 wvdc rating. I would use a 1kv wvdc cap.

Terry K9TW

48086. RE: TS-520 Frequency Jump on Transmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-10 13:20:26 UTC
From: <wagstw46@...>
Topic: 48072 Message: 48086

1. What does the radio do in ICAS modes it was designed for ie SSB and CW?

2. I know you said you cleaned the VFO air variable rotor shaft wiper contact, but sometimes it takes multiple cleanings to restore good low resistance contact thru lock to lock rotation.

3. What is the regulated 9vdc doing at the VFO?

4. Try powering the VFO with 9vdc bench supply or a 9vdc transistor battery.

5. Try cleaning the 8/9 jumper plug to socket interface or temporarily tacking a jumper across the socket pins.

Terry K9TW

48087. Re: [TS-520_820_530_830] RE: Equipment query. Anyone ever use MOTOROLA RF Millivolt Meter, model S-1340A??

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-10 14:26:16 UTC
From: Wes Will
Topic: 48040 Message: 48087

On 03/10/2014 05:41 AM, wagstw46@... wrote:
> With your 3 diode PK-3 did you use a dc blocking/coupling cap as the first element?
>
> Sounds like you may have been measuring something like Driver tube plate RF drive voltage

Precisely what happened, but it wasn't on purpose.... Probe cable is a little stiff, and when I laid it down to reach for a tool, it un-kinked itself and the tip slipped onto the circuit board. It's right where driver plate feed is, and that's when I heard the zap. No damage to the radio, just the probe. Too small a working voltage cap, it was just a 250 I had laying around in the junkbox. Poof.

New probe parts will be a LOT beefier....

--
Wes Will
SysAdmin

48088. Re: [TS-520_820_530_830] RE: Equipment query. Anyone ever use MOTOROLA RF Millivolt Meter, model S-1340A??

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-10 14:56:11 UTC
From: <wagstw46@...>
Topic: 48040 Message: 48088

http://members.shaw.ca/novotill/RfProbeSensorMvUw/index.htm
http://members.shaw.ca/novotill/RfProbeSensorMvUw/index.htm

http://www.cliftonlaboratories.com/diodes_for_rf_probes.htm
http://members.shaw.ca/novotill/RfProbeSensorMvUw/index.htm

This should help you. I dont normally share this secret stuff!

Yes you can homebrew a probe or repair a probe for a commercial RF millivolt meter like a Boonton. For the Boonton and Motorola meters you will need two diodes and series resistors and a capacitive center tap in the probe as you are feeding a differential amp or chopper.

I have replaced the diodes in burned out Boonton probes (bought a bad one at Dayton two years ago!). I have experimented with 1n34, 1n60, 1n270 and several Schottky types. Key is to try to match them both up on the bench. You will also have to perform alignment after changing out the original diodes.

I have two 92E Boonton meters here and three probes. Two with factory diodes and one I repaired. Both of the two factory probes have different low ohmic value series resistors so OEM diodes are clearly slightly different. Remember we are talking about a RF meter/probe designed to measure up to 1.2ghz calibrated. Accuracy up to 100mhz is 0.09db and up to 1ghz is 0.27dB.

I have compared the original diode probe with the repaired one with 1N5711 diodes in it and the two read pretty close at 14.200 mhz.(less than 0.25dB measuring 0dBm or 224mv). As I go up in freq they start to differ and pretty quickly. At 100mhz approx 0.50dB. Perhaps if I had used factory matched HP diodes would be better?

At low frequencies you will be measuring in KW hybrid work I dont think the difference from the original proprietary diodes will bother you too much. Most of the KW levels you will want to measure and adjust will have a +/- 1dB tolerance. For example 300mv 8.830mhz Carrier Osc needs to be from approx 267mv to 377mv. The 1.0v 8.375mhz VBT Osc needs to be from 890mv to 1122mv.

Terry K9TW

48089. Re: [TS-520_820_530_830] RE: Equipment query. Anyone ever use MOTOROLA RF Millivolt Meter, model S-1340A??

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-10 15:25:48 UTC
From: <wagstw46@...>
Topic: 48040 Message: 48089

OK-- Driver Tube plate is highest place both DC and RF you will want to measure with your homebrew PK-3 RF probe. Depending on KW model will see something between 60 to 70rms rf volts. There is a reason why the TX Level Diagrams stop at the control grids of the 6146 finals (approx 45 to 47 rf volts).

One problem measuring RF drive levels on at TS520 or TS520S with wire wrap terminal posts is it is very easy for the probe tip to slip off the head of the terminal post and you have to watch where you are probing and other eye on the meter. I made a cheap test adapter by taking piece of 14 gauge bare copper wire and two bare butt splices. I soldered butt splices on each end of about 3 to 4 inches of the wire and then heat shrinked the thing. I can slip one open end of this test adapter over any of the wire wrap terminal post and then connect RF probe to the top end with a short mini-grabber test lead. Now my rf voltage probing is hands free and can focus on the meter switch and meter indication without slipping off the top of the terminal post down into the board and contacting or bridging or shorting something that results in smoke.

Of course never try to look at the RF voltage at the Plate of the 6146 finals as you will have something on order of 850vdc and 535rf volts. The 850vdc wont hurt the PK-3 if it has the proper blocking/coupling cap, but the diode PIV will be exceeded. Will also have over 500 rf volts across the VC-1 tank cap. OK to measure across the Plate load cap or center conductor of the SO-239 (across 50 ohm dummy load) and will see approx 71rf volts at 100 watts.

If you are curious about the RF voltage across the Tank circuit (the Plate tuning capacitor and the tapped Tank coil) can approximate it by:

Final tube plate DC voltage X .90 X .707 = RF rms volts. So for your KW hybrid will be approx :

850vdc x .90 x .707 = 541rms RF volts

I have confirmed this by measurement with a HP-410C and 100:1 probe and my O-scope and P5100 hv probe.
It is fun when the theory and math prove out by measurement, but typically no reason to measure RF voltage levels inside the PA cage.

Terry K9TW

48090. Re: [TS-520_820_530_830] Drifting TS520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-10 15:24:43 UTC
From: timothy mcmillin
Topic: 47183 Message: 48090

Hi Mark,
Just to let you know that I finally got around to cleaning my rotor/stator on my TS520S I had no choice since I sent my TS830S to Terry for some remedial work. Your process worked perfectly. It is now stable as a rock
Many thanks,
Tim, WA3GPU

48091. High voltage finals box safety diagram

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-10 15:44:09 UTC
From: <donhoover@...>
Topic: 48091 Message: 48091

I drew up a safety diagram showing how to ground the plate choke to ground for safety in the finals section.

I had read about what to do for a while, but it did not make much sense exactly what the procedure that people were describing was until I actually got around to working in the finals section and saw it with my own eyes. Hopefully, this will help people see what they need to do BEFORE they ever even have to open up their finals section themselves and they will be fully prepared.

Let me know if its correct or any issues. I put this in the files section where people can find it.

https://f1.grp.yahoofs.com/v2/lNwdUyKusnklAqemd_iIyHE8a2H1MDTVkeYhUH2O_gbQAhgfUxqLAT62GYb1Un941IGgNNSzHC6kCl8B87PkFrDTx7va2CcMIy4IDWcDPE6L8_Z_hKr-YgTOGob7g5Q/High_Voltage_Finals_Safety.JPG https://f1.grp.yahoofs.com/v2/lNwdUyKusnklAqemd_iIyHE8a2H1MDTVkeYhUH2O_gbQAhgfUxqLAT62GYb1Un941IGgNNSzHC6kCl8B87PkFrDTx7va2CcMIy4IDWcDPE6L8_Z_hKr-YgTOGob7g5Q/High_Voltage_Finals_Safety.JPG

Thanks!

Don
WS4E

48092. Megan and john Swarbrick

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-11 11:44:05 UTC
From: Megan and john Swarbrick
Topic: 48092 Message: 48092

http://amillionelephants.com/ugtshji/kcdfmfq.ssvx

48093. Re: [TS-520_820_530_830] Megan and john Swarbrick << DO NOT OPEN THE LINK INSIDE.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-11 02:11:56 UTC
From: Wes Will
Topic: 48092 Message: 48093

On 03/11/2014 06:44 AM, Megan and john Swarbrick wrote:
> http://amillionelephants.com/ugtshji/kcdfmfq.ssvx

DO NOT OPEN THIS MESSAGE LINK.

Oh, Moderators. We have been spammed, and quite royally....

Might want to look into your computer, whomever this came from
originally. Sounds like you're now part of a bot-net and / or have
yourself some virus trouble....

--
Wes Will
SysAdmin
N9KDY

48094. demodulator probe

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-11 03:45:27 UTC
From: <bozo231@...>
Topic: 48094 Message: 48094

what type of demodulator probe is necessary to use a sweep generator does anyone know ?
thanks in advance

Ron
KK4PWF

48095. Re: [TS-520_820_530_830] TS-530 final bandswith coupler, lost alignment.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-11 03:55:33 UTC
From: <donhoover@...>
Topic: 48075 Message: 48095

Thanks!

That seemed to have worked, now we are cooking with gas.

-Don
WS4E

48096. Re: [TS-520_820_530_830] TS-530 final bandswith coupler, lost alignment.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-11 04:20:05 UTC
From: Joseph Stiles
Topic: 48075 Message: 48096

Don,

Glad to help. It's a very common problem. Now you know how to do it...put directions in a safe
place...ya never know when you may be able to help someone else or have to do it again yourself.

73 Joe
WB7UQU

On Monday, March 10, 2014 9:14 PM, "donhoover@..." <donhoover@gmail.com> wrote:

>Thanks!
>
>
>That seemed to have worked, now we are cooking with gas.
>
>
>-Don
>WS4E
>
>
>

48097. Re: [TS-520_820_530_830] Megan and john Swarbrick << DO NOT OPEN THE LINK INSIDE.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-11 08:02:08 UTC
From: Gordon JC Pearce
Topic: 48092 Message: 48097

On Mon, Mar 10, 2014 at 09:11:56PM -0500, Wes Will wrote:
> On 03/11/2014 06:44 AM, Megan and john Swarbrick wrote:
>
> DO NOT OPEN THIS MESSAGE LINK.

Why the hell did you include it in the reply then, doubling the chances of someone else acting on it? ;-)

--
Gordonjcp MM0YEQ

48098. Re: demodulator probe

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-11 11:32:21 UTC
From: <wagstw46@...>
Topic: 48094 Message: 48098

Ron:

I think you are asking about a diode detector to use with your new Wavetek sweep gen?

If so, nice to have the Wavetek detector like the D-151. I use one with my Sweep gen. I like them because BNC connectors on each end so easy to place in line. However, you dont see them often and a little pricey. I got mine off Ebay.

Can use just about any diode detector. Can build one on piece of perfboard or Radio Shack project board. There is a schematic for the detector that KW recommends in every Service Manual. I built one and used it before I got the D-151 unit.

If you dont have the service manual need to download and study as one of first steps in aligning a TS520 will be to check the Rx and Tx BPF alignment and manual shows the diode detector and how to connect and the expected response curve. I am pretty sure I sent you picture of a TS520 BPF response curve that I ran with a Wavetek sweeper.

I highly recommend you also connect a good standard RF sig gen into the Marker input of the Wavetek as you will need to be able to see the filter Fc at minimum to make your adjustments. The sweepers internal markers are of no use for KW filters.

Terry K9TW

48099. Re: [TS-520_820_530_830] Re: demodulator probe

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-11 14:09:15 UTC
From: Ron
Topic: 48094 Message: 48099

Yes Terry it is for the wavetec sweep generator and I'm grateful for ur time and info on using the generator for input I recieved the 2002a send

Ron KK4PWF

On Mar 11, 2014, at 6:32 AM, <wagstw46@...> wrote:

>
>
> Ron:
>
> I think you are asking about a diode detector to use with your new Wavetek sweep gen?
>
> If so, nice to have the Wavetek detector like the D-151. I use one with my Sweep gen. I like them because BNC connectors on each end so easy to place in line. However, you dont see them often and a little pricey. I got mine off Ebay.
>
> Can use just about any diode detector. Can build one on piece of perfboard or Radio Shack project board. There is a schematic for the detector that KW recommends in every Service Manual. I built one and used it before I got the D-151 unit.
>
> If you dont have the service manual need to download and study as one of first steps in aligning a TS520 will be to check the Rx and Tx BPF alignment and manual shows the diode detector and how to connect and the expected response curve. I am pretty sure I sent you picture of a TS520 BPF response curve that I ran with a Wavetek sweeper.
>
> I highly recommend you also connect a good standard RF sig gen into the Marker input of the Wavetek as you will need to be able to see the filter Fc at minimum to make your adjustments. The sweepers internal markers are of no use for KW filters.
>
> Terry K9TW
>
>
>

48100. Re: [TS-520_820_530_830] Re: demodulator probe

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-11 15:15:16 UTC
From: <wagstw46@...>
Topic: 48094 Message: 48100

OK the 2002 will serve fine. If you dont have the manual easy to find and download. I think Fig 4 shows how to connect the Detector and O-scope to test the unit.

The KW detector circuit works well, but as I mentioned you can get by with a single diode crystal detector and still have enough scope deflection. Some of the crystal detectors (classic HP423) you will find on Ebay are rated at 10 Mhz to the 20Ghz range but will work for KW hybrid IF. Some will have BNC on one end and Type N or SMA connectors on the other end so you will have to buy adapters if you buy one of those detectors.

If you have BNC to mini-grabber test leads can just hook a germanium signal diode in series in the hot lead to use the sweeper for now.

You will also see under the Typical Test Set-up diagrams Matching Units shown between the sweeper RF output and the DUT and for KW hybrid filter sweeping you wont need to worry about that.

You will be running with both the frequency indicators (green and red start stop pointers) near the far left end of the dial and most likely not accurate. I use Freq Counter to get it close to 8 mhz range.

Not hard just have to get comfortable with the Sweeper controls and the X-Y function on your O-scope. If you have a spare filter can learn how to use the sweeper without connecting into your TS520. Should terminate filter with fixed resistors (one in series and 50 ohm in shunt) that matches the filter input/output Z or can use a pot and connect sweeper to the wiper and adjust pot for peak. Service manual calls out the various xtal filter impedances.

I have to tell you in my experience seldom find the Tx BPF very far out but do find people have messed with the Rx BPF on the TS520S rigs. Just remember you are talking about coils on the IF and RF boards here. Two on the IF board and one on the RF board in each case. The manual diagrams call them out.

Terry K9TW

48101. Re: [TS-520_820_530_830] Re: demodulator probe

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-11 15:48:17 UTC
From: Ron
Topic: 48094 Message: 48101

Terry what is the rf out fitting on the generator called I need to get one from that connection to bnc. Thanks

Ron KK4PWF

On Mar 11, 2014, at 10:15 AM, <wagstw46@...> wrote:

>
>
> OK the 2002 will serve fine. If you dont have the manual easy to find and download. I think Fig 4 shows how to connect the Detector and O-scope to test the unit.
>
> The KW detector circuit works well, but as I mentioned you can get by with a single diode crystal detector and still have enough scope deflection. Some of the crystal detectors (classic HP423) you will find on Ebay are rated at 10 Mhz to the 20Ghz range but will work for KW hybrid IF. Some will have BNC on one end and Type N or SMA connectors on the other end so you will have to buy adapters if you buy one of those detectors.
>
> If you have BNC to mini-grabber test leads can just hook a germanium signal diode in series in the hot lead to use the sweeper for now.
>
> You will also see under the Typical Test Set-up diagrams Matching Units shown between the sweeper RF output and the DUT and for KW hybrid filter sweeping you wont need to worry about that.
>
> You will be running with both the frequency indicators (green and red start stop pointers) near the far left end of the dial and most likely not accurate. I use Freq Counter to get it close to 8 mhz range.
>
> Not hard just have to get comfortable with the Sweeper controls and the X-Y function on your O-scope. If you have a spare filter can learn how to use the sweeper without connecting into your TS520. Should terminate filter with fixed resistors (one in series and 50 ohm in shunt) that matches the filter input/output Z or can use a pot and connect sweeper to the wiper and adjust pot for peak. Service manual calls out the various xtal filter impedances.
>
> I have to tell you in my experience seldom find the Tx BPF very far out but do find people have messed with the Rx BPF on the TS520S rigs. Just remember you are talking about coils on the IF and RF boards here. Two on the IF board and one on the RF board in each case. The manual diagrams call them out.
>
> Terry K9TW
>
>
>

48102. Re: [TS-520_820_530_830] Re: demodulator probe

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-11 16:42:20 UTC
From: <wagstw46@...>
Topic: 48094 Message: 48102

I think Paragraph 2.4 in your manual tells that it is a Type N connector. You will need a Type N to BNC adapter. Very common on Ebay and at hamfests. I thought you had a Wavetek 3001/3002 RF Sig gen and it has same RF output connector?

Type N is used as the generator ranges up to 2500 mhz. No problem using the adapter to BNC patch cables for KW hybrid filter sweeping. Highest frequency you could get involved with is approx 40mhz (TS530/830 PLL BPF).

Terry K9TW

48103. Re: [TS-520_820_530_830] Re: demodulator probe

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-11 17:12:46 UTC
From: Ron
Topic: 48094 Message: 48103

I didn't get the manual yet still in transit but I did find the n to bnc thanks an yes I do have the 3001 generator with same connector but I wanted to order a couple more 73s

Ron KK4PWF

On Mar 11, 2014, at 11:42 AM, <wagstw46@...> wrote:

>
>
> I think Paragraph 2.4 in your manual tells that it is a Type N connector. You will need a Type N to BNC adapter. Very common on Ebay and at hamfests. I thought you had a Wavetek 3001/3002 RF Sig gen and it has same RF output connector?
>
> Type N is used as the generator ranges up to 2500 mhz. No problem using the adapter to BNC patch cables for KW hybrid filter sweeping. Highest frequency you could get involved with is approx 40mhz (TS530/830 PLL BPF).
>
> Terry K9TW
>
>
>

48104. Re: [TS-520_820_530_830] D-104 and Kenwood TS-520 - wiring (again)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-11 18:01:06 UTC
From: <lpleach@...>
Topic: 48031 Message: 48104

OK, I've got this figured out now. Wires are set up as you specified and the cable connector side done as well.

Here's how it's set up now, just in case I missed something:
Pin 1: Shielded center wire directly connected to mic (black wire)
Pin 2: red wire, connected to post 3 (NO side of switch) with yellow wire.
Pin 3: Black wire, connected to the center post of terminal.
Pin 4: shield wire, directly connected to mic (green wire)

I tested and verified connections in the cable to ensure there were no shorts and good connectivity on all pins/wires going to the base.
In testing the mic, it keys up nicely but I get nothing on the meter when speaking.
(Mic gain set at 5)
Am I missing anything?

Larry
KF5YZZ

48105. Re: [TS-520_820_530_830] D-104 and Kenwood TS-520 - wiring (again)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-11 21:37:59 UTC
From: Ken Winterling
Topic: 48031 Message: 48105

Larry,

What meter are you referencing when you say you get nothing?

I am assuming that you have tried another mic on the rig using the current settings and it works. Is that correcct?

Did the D104 work before you started your rewiring project?

Do you have an AC millivolt meter or a DMM/VTVM (at least 10 megOhm input) with a very low AC scale? If so, remove the D104 head from the stand and connect ithe meter across the mic element in the head and speak/whistle into the mic (check the schematic for the correct pins in the mic head). You should see an indication on the meter if the mic is putting out anything.

Let us know what you find.

On Tuesday, March 11, 2014, <lpleach@...> wrote:

>
>
> OK, I've got this figured out now. Wires are set up as you specified and
> the cable connector side done as well.
>
> Here's how it's set up now, just in case I missed something:
> Pin 1: Shielded center wire directly connected to mic (black wire)
> Pin 2: red wire, connected to post 3 (NO side of switch) with yellow wire.
> Pin 3: Black wire, connected to the center post of terminal.
> Pin 4: shield wire, directly connected to mic (green wire)
>
> I tested and verified connections in the cable to ensure there were no
> shorts and good connectivity on all pins/wires going to the base.
> In testing the mic, it keys up nicely but I get nothing on the meter when
> speaking.
> (Mic gain set at 5)
> Am I missing anything?
>
> Larry
> KF5YZZ
>
>

--

Ken
WA2LBI

Sent from IPad Gmail Mobile

48106. Re: [TS-520_820_530_830] D-104 and Kenwood TS-520 - wiring (again)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-11 22:51:41 UTC
From: Joseph Stiles
Topic: 48031 Message: 48106

Ken,

assuming that the microphone/wiring are correctly working.....

To what position do you have the meter selector switch set to?

You should have it set to "ALC." With rig properly tuned up...switch to which ever sideband...
key rig...and while speaking in a normal tone of voice a few inches from the microphone....rotate the "mic" control clockwise until the meter needle just bounces up.

This is covered in the operator manual

73 Joe
WB7UQU

On Tuesday, March 11, 2014 2:39 PM, Ken Winterling <wa2lbi@...> wrote:

>Larry,
>
>
>What meter are you referencing when you say you get nothing?
>
>
>I am assuming that you have tried another mic on the rig using the current settings and it works. Is that correcct?
>
>
>Did the D104 work before you started your rewiring project?
>
>
>Do you have an AC millivolt meter or a DMM/VTVM (at least 10 megOhm input) with a very low AC scale? If so, remove the D104 head from the stand and connect ithe meter across the mic element in the head and speak/whistle into the mic (check the schematic for the correct pins in the mic head). You should see an indication on the meter if the mic is putting out anything.
>
>
>Let us know what you find.
>
>On Tuesday, March 11, 2014, <lpleach@...> wrote:
>
>
>>
>>OK, I've got this figured out now. Wires are set up as you specified and the cable connector side done as well.
>>

>>Here's how it's set up now, just in case I missed something:
>>Pin 1: Shielded center wire directly connected to mic (black wire)
>>Pin 2: red wire, connected to post 3 (NO side of switch) with yellow wire.
>>Pin 3: Black wire, connected to the center post of terminal.
>>Pin 4: shield wire, directly connected to mic (green wire)
>>
>>I tested and verified connections in the cable to ensure there were no shorts and good connectivity on all pins/wires going to the base.
>>In testing the mic, it keys up nicely but I get nothing on the meter when speaking.
>>(Mic gain set at 5)
>>Am I missing anything?
>>
>>Larry
>>KF5YZZ
>
>--
>
>Ken
>WA2LBI
>Sent from IPad Gmail Mobile
>
>
>
>

48107. Re: [TS-520_820_530_830] Megan and john Swarbrick << DO NOT OPEN THE LINK INSIDE.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-11 23:56:21 UTC
From: Wes Will
Topic: 48092 Message: 48107

On 03/11/2014 03:02 AM, Gordon JC Pearce wrote:
> On Mon, Mar 10, 2014 at 09:11:56PM -0500, Wes Will wrote:
>> On 03/11/2014 06:44 AM, Megan and john Swarbrick wrote:
>>
>> DO NOT OPEN THIS MESSAGE LINK.
>
> Why the hell did you include it in the reply then, doubling the chances of someone else acting on it? ;-)
>

Yeah, I beat myself up about that one already, just about half a second
after I hit "SEND." Sorry, you got me dead to rights....

--
Wes Will
SysAdmin
N9KDY

48108. Cable from TS 830S to VFO 820.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-12 01:09:25 UTC
From: <jladd345@...>
Topic: 48108 Message: 48108

Greetings-If someone has made one of these please point me in that direction.
Have it nearly figured out with help from the "files". About ready to measure voltages at the connectors to be certain. Don't want to re invent the wheel.
I am aware they were not designed to work with each other.
Tnx, Jim K8JL, qrv since 1955.

48109. Re: [TS-520_820_530_830] Cable from TS 830S to VFO 820.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-12 03:25:35 UTC
From: Joseph Stiles
Topic: 48108 Message: 48109

Jim,

I do not think that the combination will work.

The Remote VFO-820 has the same VFO as the TS-820(S) The VFO has a frequency spread of 5.0 mHz to 5.5 mHz.

The VFO in the 830 has a VFO with a frequency spread of 5.5 mHz to 6.0 mHz.

73 Joe
WB7UQU

On Tuesday, March 11, 2014 7:15 PM, "jladd345@..." <jladd345@...> wrote:

>
>Greetings-If someone has made one of these please point me in that direction.
>Have it nearly figured out with help from the "files". About ready to measure voltages
>at the connectors to be certain. Don't want to re invent the wheel.
>I am aware they were not designed to work with each other.
>Tnx, Jim K8JL, qrv since 1955.
>
>
>

48110. New Member Information

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-12 03:42:54 UTC
From: Bennie Jamerson
Topic: 48110 Message: 48110

Thanks for letting join the group. I have been a tech for several, but just upgraded. I have a Kenwood TS-530S, a Kenwood TD-700 and a Kenwood TM-7.

I have no experience or test equipment, unless you count a multimeter. However I am willing to learn.

KD5OHP Bennie

48111. Re: [TS-520_820_530_830] New Member Information

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-12 04:12:08 UTC
From: Joseph Stiles
Topic: 48110 Message: 48111

Bennie,

  Congrats on your upgrade and welcome aboard. Willingness to learn is a real good first step.
Please take some time and look through the "files" section. There's a bunch of good stuff! Just go to the this groups home page and click on "files." Also, if you have not already, please review the group's rules/policies regarding conduct.

  Again, Welcome Aboard.....

73 Joe
WB7UQU
Group Co-owner

On Tuesday, March 11, 2014 9:00 PM, Bennie Jamerson <bennie.jamerson@...> wrote:

>Thanks for letting join the group. I have been a tech for several, but just upgraded. I have a Kenwood TS-530S, a Kenwood TD-700 and a Kenwood TM-7.
>
>I have no experience or test equipment, unless you count a multimeter. However I am willing to learn.
>
>KD5OHP Bennie
>
>
>

48112. RE: [TS-520_820_530_830] New Member Information

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-12 04:11:35 UTC
From: Jon & Jan
Topic: 48110 Message: 48112

Bennie, welcome ... a lot of us old-timers, still clinging to tubes, are willing to download our experiences to help.

KØFOP, Jon

this post trimmed as it contained already posted material- Joe-WB7UQU

48113. Re: [TS-520_820_530_830] Cable from TS 830S to VFO 820.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-12 14:59:12 UTC
From: W5RKL
Topic: 48108 Message: 48113

Jim,

As Joe said the VFO-820 has a different frequency range then the TS-830 internal VFO. Therefore, the VFO-820 will not work with the TS-830. The only Kenwood external/remote VFO's that will work with the TS-830 are the VFO-230 and VFO-240.

73
Mike W5RKL

On 3/11/2014 8:09 PM, jladd345@... wrote:
>
>
> Greetings-If someone has made one of these please point me in that
> direction.
>
> Have it nearly figured out with help from the "files". About ready to
> measure voltages
>
> at the connectors to be certain. Don't want to re invent the wheel.
>
> I am aware they were not designed to work with each other.
>
> Tnx, Jim K8JL, qrv since 1955.
>
>

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48114. Re: [TS-520_820_530_830] D-104 and Kenwood TS-520 - wiring (again)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-12 15:46:48 UTC
From: <lpleach@...>
Topic: 48031 Message: 48114

Joe -
Yes, this is what I tried. The meter needle doesn't budge.

Larry
KF5YZZ

48115. Re: [TS-520_820_530_830] D-104 and Kenwood TS-520 - wiring (again)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-12 16:44:19 UTC
From: W5RKL
Topic: 48031 Message: 48115

Larry,

The meter, in receive, will only display variations in the IF Unit's AGC voltage based on the varying strength of the receive signal. The meter switch is disabled in receive, hence none of the meter switch position will work in receive. Switching to transmit, the meter switch is enabled, displaying the appropriate indications on the meter.

Does the meter work in receive, i.e., indicate S Unit based on the receive signal? Also, in receive, does the meter rise above zero and peg fully to the right when the RF gain control is rotated fully CCW? If so then the meter itself is working as it should.

I may have missed it but what band or bands are you experiencing lack of ALC in sideband transmit?

Are you experiencing the lack of ALC during tune up or during normal sideband transmissions?

What position do you have the MIC gain set at during normal sideband transmissions?

If tune up produces normal ALC indication but normal sideband with the MIC gains set between 9 and 11 o'clock, there is no ALC indication, it's quite possible the microphone element OR wiring to the element is bad. It's no unusual for old D-104 microphone elements to fail due to age and/or storage environment. Moisture can ruin a microphone element.

73
Mike W5RKL

On 3/12/2014 10:46 AM, lpleach@... wrote:
>
> Joe -
> Yes, this is what I tried. The meter needle doesn't budge.
>
> Larry
> KF5YZZ
>
>

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http://www.avast.com

48116. Re: [TS-520_820_530_830] D-104 and Kenwood TS-520 - wiring (again)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-12 16:27:05 UTC
From: <lpleach@...>
Topic: 48031 Message: 48116

Ken,
The meter I was referring to is the S meter on the rig.

This is my first rig and mic. Both were purchased separately. I cannot confirm that the mic worked before other than the word of the previous owner. Testing the mic head does show that the head is indeed working. I did not do any testing of the mic before the re-wiring. The rig was used exclusively for CW from the previous owner.

Larry
KF5YZZ

48117. 8 pin DIN connector for TS830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-12 17:30:46 UTC
From: <mac.haszard@...>
Topic: 48117 Message: 48117

Looking for two 8-pin DIN connectors that fit the remote connector plug on the TS-830S. I need to build a cable to interface my amp to the transceiver.

Appreciate any leads.

Mac K6OVI

48118. Re: [TS-520_820_530_830] 8 pin DIN connector for TS830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-12 17:43:02 UTC
From: Craig Roberts
Topic: 48117 Message: 48118

Mouser (mouser.com) has them.

73,
Craig
W3CRR

Sent from my iPhone

On Mar 12, 2014, at 13:30, <mac.haszard@...> wrote:

> Looking for two 8-pin DIN connectors that fit the remote connector plug on the TS-830S.
>
> I need to build a cable to interface my amp to the transceiver.
>
> Appreciate any leads.
>
> Mac K6OVI
>

48119. Re: [TS-520_820_530_830] 8 pin DIN connector for TS830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-12 18:32:25 UTC
From: Joseph Stiles
Topic: 48117 Message: 48119

Mac,

Check out: hybridrestore.com and k4eaa.com

73 Joe
WB7UQU

On Wednesday, March 12, 2014 11:12 AM, "mac.haszard@..." <mac.haszard@...> wrote:

>Looking for two 8-pin DIN connectors that fit the remote connector plug on the TS-830S.
>I need to build a cable to interface my amp to the transceiver.
>
>
>Appreciate any leads.
>
>
>Mac K6OVI
>
>
>

48120. RE: [TS-520_820_530_830] New Member Information

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-12 18:08:07 UTC
From: <bennie.jamerson@...>
Topic: 48110 Message: 48120

Jon,
Thanks, while not an old time to the group I am an old timer and I like the tubes also.
First thing I need to know is where to find web information on how to use the 530.
My group history tour taught me how to tune it, but it will not stay tuned. Once I retune it works for a short time, just minutes. I was thinking that the 6146's might be weak or something times out on the heater.

Bennie Jamerson KD5OHP

48121. Re: [TS-520_820_530_830] New Member Information

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-12 20:40:31 UTC
From: John Davidson
Topic: 48110 Message: 48121

do the filaments go out on the tubes ? try looking for a bad solder joint or two on the tube sockets ?

On Wednesday, March 12, 2014 4:21 PM, "bennie.jamerson@..." <bennie.jamerson@...> wrote:

Jon,
Thanks, while not an old time to the group I am an old timer and I like the tubes also.
First thing I need to know is where to find web information on how to use the 530.
My group history tour taught me how to tune it, but it will not stay tuned. Once I retune it works for a short time, just minutes. I was thinking that the 6146's might be weak or something times out on the heater.

Bennie Jamerson KD5OHP

48122. Re: [TS-520_820_530_830] New Member Information

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-12 20:44:53 UTC
From: W5RKL
Topic: 48110 Message: 48122

Ben,

What do you mean when you say your TS-530 will not stay tuned? Be more precise in your explanation please.

There is no timer on the tube filaments.

The KW hybrids do not have a broadband final as the modern solid state transceivers do. If you change frequencies by a substantial amount, say 35 to 50Khz then the transmitter should be tuned again.

Try this simple test. Follow the test on 20 meters.

1. Set the Mode switch to TUNE
2. Connect the 530 to a 50 ohm dummy load (hopefully you have one as all ham stations should have a 50 ohm dummy load with a power rating of at least 200 watts)
3. Set the Meter switch to ALC
4. Set the CAR control between 9 and 10 o'clock
5. Set the DRIVE control to 12 o'clock
6. Flip the SEND switch UP, that will key the transmitter
7. Adjust the DRIVE control for a peak indication on the 530's meter. If the meter peg fully to the right, reduce the CAR control (CCW) so the meter points to approximately 12 o'clock and continue adjusting the DRIVE control for a peak meter indication.

Do not touch any controls, simply leave the transmitter keyed for 3 or 4 more seconds and watch the 530 meter. Does the meter start to drop back towards zero during those 3 to 4 extra seconds? If it does then the driver tube should be replaced. You do NOT have to change the final tubes if you only have to change the driver tube so don't waste money on final tubes simply because you changed the driver tubes.

Now if the ALC meter indication remains stable, it doesn't drop back toward zero after 3 or 4 seconds with the transmitter keyed in TUNE mode then the driver tube is fine.

If, after completing the normal tune up with maximum output, power output starts to drop off after a few minutes then it's possible the final tube(s) may need replacing. If you have to replace the final tubes, first don't waste you money on matched tube, you will not achieve any benefit by purchasing matched 6146B final tubes so don't let anyone convince you differently. Second, you will have to neutralize the final amplifier before using the 530 with the new final tubes. The procedure to neutralize the final amplifier is covered in the TS-530 operator's manual.

If you are using the "RF" meter setting, remember that meter switch setting does not have a meter scale and it only indicates relative power output. The RF meter switch indication is set by the rear panel "RF VOLT" pot as discussed in the 530's operator's manual.

73
Mike W5RKL

On 3/12/2014 1:08 PM, bennie.jamerson@... wrote:
>
> Jon,
>
> Thanks, while not an old time to the group I am an old timer and I
> like the tubes also.
>
> First thing I need to know is where to find web information on how to
> use the 530.
>
> My group history tour taught me how to tune it, but it will not stay
> tuned. Once I retune it works for a short time, just minutes. I was
> thinking that the 6146's might be weak or something times out on the
> heater.
>
>
> Bennie Jamerson KD5OHP
>
>

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48123. Re: [TS-520_820_530_830] New Member Information

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-12 20:44:45 UTC
From: Joseph Stiles
Topic: 48110 Message: 48123

Bennie,

Could you be a bit more specific about your rig not staying "tuned." Changing frequencies will cause your rig to get "out of tune" because the selected tank circuit and associated "stuff" is tuned to a specific frequency. Changing frequency (on same band) by several hundred kHz will cause an "out of tune" experience.

Check this with rig properly tuned up(dummy load please):

Check your HV(high voltage- indication available with front meter selector to HV) with rig in transmit...less than about 750VDC may indicate weak HV capacitors.

Check for falling DRIVE LEVEL(ALC) on key down(transmit)...usually indicates failing 12BY7A driver tube.

Falling plate current(Ip) on key down usually indicates failing final amplifier tubes.

The heater circuit affects both the driver and the final amplifier tubes. I doubt that this is a problem, otherwise I do not think that you would get proper output due to a malfunctional heater circuit...but anything's possible.

Remember....these rigs require operator intervention....they are not plug-n-play

73 Joe
WB7UQU

On Wednesday, March 12, 2014 1:22 PM, "bennie.jamerson@..." <bennie.jamerson@...> wrote:

>Jon,
>Thanks, while not an old time to the group I am an old timer and I like the tubes also.
>First thing I need to know is where to find web information on how to use the 530.
>My group history tour taught me how to tune it, but it will not stay tuned. Once I retune it works for a short time, just minutes. I was thinking that the 6146's might be weak or something times out on the heater.
>
>
>Bennie Jamerson KD5OHP
>
>
>
>

48124. Re: [TS-520_820_530_830] New Member Information

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-12 20:48:57 UTC
From: W5RKL
Topic: 48110 Message: 48124

Ben,

I forgot to comment about "how to use the 530". All you need to know about how to tune and operate the TS-530 is in the TS-530's operator's manual. If you do not have the 530 operator's manual then you need to download it and spend some time studying it so you can learn what the function of each control is and how to use them. All too often people buy KW hybrids but the manuals don't come with the radio. Instead of finding the manual, the buyer plugs the radio in and starts attempting to operate it. When something doesn't work as the buyer thinks it should, instead of obtaining and consulting the operator's manual, the start asking question when it's quite possible the answer to their question is in the operator's manual

73
Mike W5RKL

On 3/12/2014 1:08 PM, bennie.jamerson@... wrote:
>
> Jon,
>
> Thanks, while not an old time to the group I am an old timer and I
> like the tubes also.
>
> First thing I need to know is where to find web information on how to
> use the 530.
>
> My group history tour taught me how to tune it, but it will not stay
> tuned. Once I retune it works for a short time, just minutes. I was
> thinking that the 6146's might be weak or something times out on the
> heater.
>
>
> Bennie Jamerson KD5OHP
>
>

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48125. Re: [TS-520_820_530_830] D-104 and Kenwood TS-520 - wiring (again)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-12 21:02:43 UTC
From: Mike W5RKL
Topic: 48031 Message: 48125

Larry,

A previous operator who used the 520 exclusive on CW will not have anything to do with the problem you are having.

Does the meter work with the meter switch set to ALC during TUNE mode transmitter tuning? If so then it's not the meter that's your problem.

As I asked before, does the meter rise fully to the right when the RF Gain control is rotated fully CCW?

73
Mike W5RKL

On 3/12/2014 11:27 AM, lpleach@... wrote:
>
> Ken,
> The meter I was referring to is the S meter on the rig.
>
> This is my first rig and mic. Both were purchased separately. I
> cannot confirm that the mic worked before other than the word of the
> previous owner. Testing the mic head does show that the head is indeed
> working. I did not do any testing of the mic before the re-wiring.
> The rig was used exclusively for CW from the previous owner.
>
> Larry
> KF5YZZ
>
>

48126. observations from a noob

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-12 22:16:50 UTC
From: Rob Stewart
Topic: 48126 Message: 48126

I'm brand new to amateur radio and this group and I've been lurking here and reading all the Q&A with great interest. So much to know beyond answering most of 50 questions correctly! In addition to the forum, I found (on someone's recommendation) the http://www.k4eaa.com/faq.htm site. Holy cow, what a great place to find great and practical information. Not just *how* to do something but *why* it should be done. I'm sure there are other great resources out there that I have yet to discover so I'm going to do a lot of reading in this group's archives, download and read manuals and listen to the hard won wisdom of the folks with years of experience before I ask any dumb questions. I have not keyed up yet but I'd like to be as well informed as I can be when I do. Y'all keep up the good work - those of us with little experience are all benefiting.

John WA3JRS

48127. RE: [TS-520_820_530_830] 8 pin DIN connector for TS830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-12 23:03:29 UTC
From: Jon & Jan
Topic: 48117 Message: 48127

Mac, I have some 7-pin connectors that fit my TS-530S on the back panel ...
Is yours actually 8-pin?

Jon KØFOP

-----Original Message-----
From: TS-520_820_530_830@yahoogroups.com
[mailto:TS-520_820_530_830@yahoogroups.com] On Behalf Of
mac.haszard@...
Sent: Wednesday, March 12, 2014 11:31 AM
To: TS-520_820_530_830@yahoogroups.com
Subject: [TS-520_820_530_830] 8 pin DIN connector for TS830S

Looking for two 8-pin DIN connectors that fit the remote connector plug on
the TS-830S.

I need to build a cable to interface my amp to the transceiver.

Appreciate any leads.

Mac K6OVI

48128. Re: [TS-520_820_530_830] 8 pin DIN connector for TS830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-13 02:27:51 UTC
From: W5RKL
Topic: 48117 Message: 48128

Mac,

The TS-530 Remote VFO socket actually has "8" pins, 7 in a circle around the edge and one in the middle, just like the TS-830. You can see this by viewing the rear panel of your TS-530 and the schematic in the TS-530 and TS-830 operator's manual.

73
Mike W5RKL

On 3/12/2014 6:03 PM, Jon & Jan wrote:
>
> Mac, I have some 7-pin connectors that fit my TS-530S on the back
> panel ... Is yours actually 8-pin?
>
> Jon K?FOP
>
> -----Original Message-----
> *From:* TS-520_820_530_830@yahoogroups.com
> [mailto:TS-520_820_530_830@yahoogroups.com] *On Behalf Of
> *mac.haszard@...
> *Sent:* Wednesday, March 12, 201411:31 AM
> *To:* TS-520_820_530_830@yahoogroups.com
> *Subject:* [TS-520_820_530_830] 8 pin DIN connector for TS830S
>
> Looking for two 8-pin DIN connectors that fit the remote connector
> plug on the TS-830S.
>
> I need to build a cable to interface my amp to the transceiver.
>
> Appreciate any leads.
>
> Mac K6OVI
>
>

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48129. RE: [TS-520_820_530_830] New Member Information

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-12 23:24:48 UTC
From: Jon & Jan
Topic: 48110 Message: 48129

Bennie, when the tuning changes, does the plate current "dip" position change? (that's the same point as the RF "peaks", if the meter is reading RF). Or, does the output fall off?

If the latter, you should replace the 6146s ... (wouldn't hurt to check the driver tubes, too) the 6146s don't need to be a matched set, but, you will have to "neutralize" the new ones after installed. That's in the op manual.

If it's the former, it could be a multitude of things from a faulty drive signal to the 6146s, to a faulty antenna.

Web info for these rigs: the yahoo groups is good; also, a website called: www.mods.dk

Jon

P.S. The TS-530 is a great, great rig ... the TS-830 is the same rig, but, with a notch filter in the rcvr.

this msg trimmed as it contained already posted material- Joe-WB7UQU

48130. Re: [TS-520_820_530_830] 8 pin DIN connector for TS830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-13 02:40:18 UTC
From: Mac Haszard
Topic: 48117 Message: 48130

Jon,

That was a typo on my part. Had just looked at the manual and must have had the external VFO connector in mind.
I need the 7-pin DIN connector. Per the TS-830S manual, the XVTR connector is the 8-pin (7 around 1 in the center) and the ACSY connector is 7-pin (nothing in the center).

I need the ACSY connector. Someone mentioned Mouser, and I did find two, part number:

568-NYS323
Male 7-pin cable

Hopefully these will work, else I'll be getting back to you.

73,
Mac K6OVI

On Wednesday, March 12, 2014 7:03 PM, Jon & Jan <springertool@...> wrote:

Mac, I have some 7-pin connectors that fit
my TS-530S on the back panel ... Is yours actually 8-pin?

Jon KØFOP

-----Original Message-----
From: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com] On Behalf Of mac.haszard@...
Sent: Wednesday, March 12, 201411:31 AM
To: TS-520_820_530_830@yahoogroups.com
Subject: [TS-520_820_530_830] 8
pin DIN connector for TS830S

Looking for two 8-pin DIN connectors that fit the
remote connector plug on the TS-830S.
I need to build a cable to interface my amp to the
transceiver.

Appreciate any leads.

Mac K6OVI

48131. Cable from TS 830S to VFO 820

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-13 03:16:04 UTC
From: Jim L
Topic: 48131 Message: 48131

Greetings- these are not designed to work together but
I want to try doing so.
Need to compare connections to a vfo 820 with those to
a vfo 230 or 240.

Can't find a schematic of the latter that has external connectors. Must be more than one version of the vfo 230.
Tried "files: and google with no luck.

Can anyone help?
Tnx, Jim, K8JL, qrv since 1955.

48132. Re: [TS-520_820_530_830] Possible Power Supply Problem in a TS-830S?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-16 22:29:08 UTC
From: Joseph Stiles
Topic: 47722 Message: 48132

Overand,

  Sorry you feel that way. The groups policies/rules were clearly stated in the "auto-send msg" you should have received upon your approval of membership in this group. It does not matter
whether you transmit, cause QRM...etc.. or not.

   We mean no disrespect towards you, but you must respect our rules/policies.
We hope that you remain safe... but, if you feel uncomfortable for whatever reason, abiding the the groups rules/polices, please feel free to "unsubscribe."

73 Joe
WB7UQU
TS-520_820_530_830 yahoo group Co-owner

On Sunday, February 16, 2014 2:20 PM, Overand <overand@...> wrote:

>As a person who has been stalked, and has also housed battered women with protective orders against their exes, I'm going to have to say that I disagree with the community choice to require everyone commenting to give their full real-life identity. I understand that this is common in the ham radio circles, but given that we're *not* transmitting here, *not* at risk of causing QRM, I'm opposed to these kinds of rules. I did provide my call in my joining-request message, so you know who I am, but I don't feel the need to link my e-mail address with my mailing address full name.
>
>
>I will at some point re-join this group with a new e-mail address created expressly for this purpose, but it will of course make it far more awkward to communicate with the group.
>
>
>Best of luck.
>
>
>"Overand"
>
>
>On Feb 16, 2014 4:13 PM, "Mike W5RKL" <w5rkl@...> wrote:
>
>
>>
>>Overand, you must add a signature at the end of each message you post on this group. The message signature requirement was discussed in the message sent to you when your applications for membership to this group was approved.
>>
>>Acceptable signatures at the end of any message you post on this

group are as follows:
>>
>>1. Licensed hams, your first name and call sign
>>2. Non-licensed hams, your first name only
>>
>>"Screen names" are not acceptable message signature. Screen names
are only acceptable as part of your e-mail address.
>>
>>Therefore, please add a signature at the end of each message you
post on this group.
>>
>>73
>>Mike W5RKL
>>TS_520_820_530_830 Moderator
>>
>>
>>On 2/16/2014 1:47 PM, Overand wrote:
>>
>>
>>>I'm a beginner to the ts-830s, but I'll make a generation suggestion.
>>>Do you have a multimeter? Check the voltages out of the transformer, and the various
regulators. That's always a good place to start.
>>>Don't have a multimeter? Pick up at least a Fluke 77 IV. Other folks might have other,
better suggestions, but that's a good starter meter.
>>>On Feb 16, 2014 2:27 PM, "Jim Best" <james9194@...> wrote:
>>>
>>>
>>>>I have a TS-830 which has served me well for quite a few years until recently. I'm
asking these questions just in case someone may have seen something similar. When I turn my
830 the frequency window comes on and then slowly goes black. The transceiver is dead;
transmit and receive The lights in the S meter stays lit. Suggestions anyone?
>>>>
>>>>73 Jim
>>>>
>>>>WU7G
>>
>
>
>

48133. Re: [TS-520_820_530_830] Cable from TS 830S to VFO 820

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-13 04:26:06 UTC
From: Wes Will
Topic: 48131 Message: 48133

> Can't find a schematic of the latter that has external connectors. Must be more than one version of the vfo 230.
> Tried "files: and google with no luck.
>
> Can anyone help?
> Tnx, Jim, K8JL, qrv since 1955.

Tried the manual?

http://www.ixquick.com
(they aren't sending your IP address and associated searches to the government. I use ixquick by preference these days because it's none of Uncle's bees'-wax what I look for.)

Once there, search for
Kenwood manual vfo 230

The first link is

http://w0nta.com/Kenwood%20VFO-230%20Instruction%20Manual.pdf

The schematic and pin-outs are in there.

--
Wes Will
SysAdmin
N9KDY

48134. RE: [TS-520_820_530_830] New Member Information

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-13 05:07:45 UTC
From: fpath fpath
Topic: 48110 Message: 48134

Jon,
Sorry to be picky but the 830 and 530 are not the same rigs, as per your "PS quote". They have physical similarity, but the circuitry is different . The 530s is\has single conversion architecture, so the output from the balance modulator and Q18 is 8.830MHz, and not 455Khz. The 830s is a double conversion.
Whilst there are some common traits, as an example the 530s RF board has missing components and connector, so one cannot simply swap RF boards between 530s and 830s without addition of parts.
The IF and AF boards are different. The 830s is a far more sort after radio, it has VBT, Notch filter and some novelty gimmicks (DH hold) in some sense it is a superior radio to the 530s. I wont get into the argument of gold label versus silver label.
I have two 530s, a 1 million series and a 3 million series. The circuits have been improved over time by Kenwood. Same as the service manuals, my original 1982 (530s) service manual is missing sections, compared to the 530s\sp service manual
Have a look at the service manual for both models and do a comparison, it is interesting on what you can see and a good way of learning.

"P.S. The TS-530 is a great,
great rig ... the TS-830 is the same rig, but, with a notch filter in the rcvr".

73sDaveVK5PDL

48135. Re: [TS-520_820_530_830] 8 pin DIN connector for TS830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-13 14:23:52 UTC
From: W5RKL
Topic: 48117 Message: 48135

For the benefit of the newbies/inexperienced operators, the connector in question on the rear panel of the TS-830 is the "REMOTE" 7 pin DIN socket. The TS-830 does not have a socket labeled "ACSY". This is not being nit-picking but rather making sure the newbies/inexperienced hams/members are aware of what actual socket is being discussed here.

73
Mike W5RKL

On 3/12/2014 9:40 PM, Mac Haszard wrote:
> Jon,
>
> That was a typo on my part. Had just looked at the manual and must
> have had the external VFO connector in mind.
> I need the 7-pin DIN connector. Per the TS-830S manual, the XVTR
> connector is the 8-pin (7 around 1 in the center) and the ACSY
> connector is 7-pin (nothing in the center).
>
> I need the ACSY connector. Someone mentioned Mouser, and I did find
> two, part number:
>
> 568-NYS323
> Male 7-pin cable
>
> Hopefully these will work, else I'll be getting back to you.
>
> 73,
> Mac K6OVI
>
>
> On Wednesday, March 12, 2014 7:03 PM, Jon & Jan
> <springertool@...> wrote:
> Mac, I have some 7-pin connectors that fit my TS-530S on the back
> panel ... Is yours actually 8-pin?
> Jon KØFOP
> -----Original Message-----
> *From:* TS-520_820_530_830@yahoogroups.com
> [mailto:TS-520_820_530_830@yahoogroups.com] *On Behalf Of
> *mac.haszard@...
> *Sent:* Wednesday, March 12, 201411:31 AM
> *To:* TS-520_820_530_830@yahoogroups.com
> *Subject:* [TS-520_820_530_830] 8 pin DIN connector for TS830S
> Looking for two 8-pin DIN connectors that fit the remote connector
> plug on the TS-830S.
> I need to build a cable to interface my amp to the transceiver.

> Appreciate any leads.
> Mac K6OVI
>
>
>

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http://www.avast.com

48136. Re: [TS-520_820_530_830] Cable from TS 830S to VFO 820

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-13 14:32:50 UTC
From: W5RKL
Topic: 48131 Message: 48136
Attachments: 1 described; binary payloads are missing from this source WARC

Jim,

I'm not sure what you are looking for but the schematic in the VFO-230
manual clearly shows what each pin on the VFO-230 plug/socket is for.

73
Mike W5RKL

On 3/12/2014 10:16 PM, Jim L wrote:
>
> Greetings- these are not designed to work together but
> I want to try doing so.
> Need to compare connections to a vfo 820 with those to
> a vfo 230 or 240.
> Can't find a schematic of the latter that has external connectors.
> Must be more than one version of the vfo 230.
> Tried "files: and google with no luck.
> Can anyone help?
> Tnx, Jim, K8JL, qrv since 1955.
>

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http://www.avast.com

48137. New (to me) TS-520 with some issues.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-13 03:59:24 UTC
From: <junkmailsux@...>
Topic: 48137 Message: 48137

I was given a Kenwood TS-520 in exchange for a website. When I opened it there was a huge mouse nest over the RF board. Wires had been chewed through and it was pretty "dirty". I've repaired the wires and cleaned it up. I've been a ham for almost a year and this is my first big radio. Up to now I've only had a BaoFeng UV-5R but it's just 2M/440.

Here's a list of issues that I've found so far. I'm hoping someone can help.

When I turn down the RF gain, the meter rises to max with RF at 4. Is that normal? Receives CW (and other tones on USB & LSB) well if JJY/WWV is ON and is fairly loud with the volume around 25%. When it’s off, I have to max the volume (and can still barely hear it) and never get anything but static. I'm hooked up to a 274(ish) foot square loop that works beautifully with my buddies Icom 706. Receives San Francisco Air Traffic Control (REALLY WELL) on ALL bands if JJY/WWV is ON. That's the ONLY voice transmission I've heard. Band 28 is 11M. How do I switch it back to 10M? I appreciate your time!!

Thanks,
Chad
KK6DPE

48138. Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-13 12:14:33 UTC
From: <christopherlarwood@...>
Topic: 47979 Message: 48138

I'm in a similar situation with a couple of 520S radios. I'm not an electronics engineer/tech or have test lab but interested and motivated to learn.
The service manual contains trouble shooting outlines but not much further detail - step 1 of no output--> final section lists 4 possible reasons but doesn't go in to how to test the 4 listed points. eg 1 Deterioration of the S2001A - without a valve tester or other test equipment how can I tell if they're the culprit? Aside from trying other valves!
I shall be searching this forum for procedures and steps to take but it would be useful to newcomers if there was trouble shooting guide - with a bit more detail than the kenwood service manual! As was pointed out earlier, there are only about 100 possible things it could be - but where to start and whats the logical order?
I will have a hand from a local ham with considerable experience but would like to understand the troubleshooting workflow for myself.
Here is the youtube clip I made to demo what is happening with the 520S
https://www.youtube.com/watch?v=1rIQ0cRThaU https://www.youtube.com/watch?v=1rIQ0cRThaU
I have purchased components to fix the first faulty 520s (different tx output fault) but looks like I may have to use these to fix what has been my "main" radio and order another batch!
I'll stock up on some parts for my 830S while I'm at it - or is that tempting fate?
VK5LTD
Christopher

48139. Re: [TS-520_820_530_830] D-104 and Kenwood TS-520 - wiring (again)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-13 13:26:05 UTC
From: <lpleach@...>
Topic: 48031 Message: 48139

The ALC meter does work when receiving.
And yes, the meter goes all the way over with the gain rotated fully CCW.

I think that at this time, unless someone has a good idea of what is going on, I'm going to put this on hold until I can verify this mic on another radio or I get another mic to verify the radio,

Larry
KF5YZZ

48140. RE: [TS-520_820_530_830] New Member Information

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-13 15:55:27 UTC
From: Jon & Jan
Topic: 48110 Message: 48140

Dave, thanx for the gentle advisory ... I never looked at the circuit differences, just overall functional. A little "picky" is good.

Thanx, Jon

this msg trimmed as it contained already posted material. Please check your email settings to not include prior posts/msg's in your response. TNX n 73 Joe-WB7UQU

48141. Re: [TS-520_820_530_830] D-104 and Kenwood TS-520 - wiring (again)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-13 17:29:34 UTC
From: Ken Winterling
Topic: 48031 Message: 48141

Larry,

Others on the list have advised you on the behavior of the TS-520 meter in receive ("S" meter) and in tune/transmit (ALC) so I'll only refer to the mic which can be tested independently from any rig.

As MIke mentioned, it is not uncommon for those old D-104 crystal elements to go bad. Do you have an oscilloscope? If so, unsolder the two wires from the mic element in the head and connect the 'scope probe directly to the element terminals and whistle. You should see the display change in response to your whistling. If you don't have a 'scope try putting whatever test meter you have (DMM, VTVM) on the lowest AC range (millivolts) and whistle. The meter reading/needle should fluctuate if the element is good.

Let's verify your wiring with some additional tests. Just to eliminate any shorts or miswiring, if you have not already done so, open the back of the mic head and unsolder the two wires from the mic element. Assemble the mic head to the stand. Set your meter to ohms for the following tests. Be sure the PTT bar is not depressed/locked on. It must be off/open for these tests unless otherwise indicated.

1. Check that one of the wires HAS continuity to pin 1 of the 4 pin plug.

2. Check that the other wire HAS continuity to pin 4 of the 4 pin plug.
3. Check that there is no short between the two wires in the mic head.
4. While the meter is connected across the wires press the PTT. There should be no short.
5. Check that there is NO continuity from EITHER wire to the case/stand.
6. Press the PTT and check that there is NO continuity from EITHER wire to the case/stand.
7. Check that there is NO continuity from EITHER wire to pin 3 of the 4 pin plug.
8. Press the PTT and verify NO continuity from EITHER wire to pin 3 of the 4 pin plug.
9. Check that there is NO continuity from EITHER wire to pin 2 of the 4 pin plug.
10. Press the PTT and verify NO continuity from EITHER wire to pin 2 of the 4 pin plug.

Please report your findings.

Ken
WA2LBI

On Wed, Mar 12, 2014 at 12:27 PM, <lpleach@...> wrote:

>
>
> Ken,
> The meter I was referring to is the S meter on the rig.
>
> This is my first rig and mic. Both were purchased separately. I cannot
> confirm that the mic worked before other than the word of the previous
> owner. Testing the mic head does show that the head is indeed working. I
> did not do any testing of the mic before the re-wiring.
> The rig was used exclusively for CW from the previous owner.
>
> Larry
> KF5YZZ
>

48142. Re: [TS-520_820_530_830] 8 pin DIN connector for TS830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-13 18:02:15 UTC
From: Mac Haszard
Topic: 48117 Message: 48142

To further clarify:

Mike is correct that the 830S does not have a socket labeled ACSY, the socket in question is labeled "remote connector".

I was referring to page 13 of the users manual which has a wiring diagram for the remote connector. For whatever reason, the manual describes the remote connector as the ACSY connector as opposed to the XVTR connector for the external VFO.

Nothing like clear, concise technical writing...!

Mac K6OVI

On Thursday, March 13, 2014 10:24 AM, W5RKL <w5rkl@...> wrote:

For the benefit of the newbies/inexperienced operators, the connector in question on the rear panel of the TS-830 is the "REMOTE" 7 pin DIN socket. The TS-830 does not have a socket labeled "ACSY". This is not being nit-picking but rather making sure the newbies/inexperienced hams/members are aware of what actual socket is being discussed here.

73
Mike W5RKL

On 3/12/2014 9:40 PM, Mac Haszard wrote:

>Jon,
>
>
>That was a typo on my part. Had just looked at the manual and must have had the external VFO connector in mind.
>I need the 7-pin DIN connector. Per the TS-830S manual, the XVTR connector is the 8-pin (7 around 1 in the center) and the ACSY connector is 7-pin (nothing in the center).
>
>
>I need the ACSY connector. Someone mentioned Mouser, and I did find two, part number:
>
>
>568-NYS323
>Male 7-pin cable
>
>
>Hopefully these will work, else I'll be getting back to you.
>
>
>73,
>Mac K6OVI

>
>
>
>
>On Wednesday, March 12, 2014 7:03 PM, Jon & Jan <springertool@...> wrote:
>
>
>Mac, I have some 7-pin connectors that fit my TS-530S on the back panel ... Is yours actually 8-pin?
>
>Jon KØFOP
>
>-----Original Message-----
>From: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com] On Behalf Of mac.haszard@...
>Sent: Wednesday, March 12, 201411:31 AM
>To: TS-520_820_530_830@yahoogroups.com
>Subject: [TS-520_820_530_830] 8 pin DIN connector for TS830S
>
>
>Looking for two 8-pin DIN connectors that fit the remote connector plug on the TS-830S.
>I need to build a cable to interface my amp to the transceiver.
>
>Appreciate any leads.
>
>Mac K6OVI
>
>

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48143. Re: [TS-520_820_530_830] New (to me) TS-520 with some issues.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-13 18:11:30 UTC
From: Gordon JC Pearce
Topic: 48137 Message: 48143

On Wed, Mar 12, 2014 at 08:59:24PM -0700, junkmailsux@... wrote:
> I was given a Kenwood TS-520 in exchange for a website. When I opened it there was a huge mouse nest over the RF board. Wires had been chewed through and it was pretty "dirty". I've repaired the wires and cleaned it up. I've been a ham for almost a year and this is my first big radio. Up to now I've only had a BaoFeng UV-5R but it's just 2M/440.
>
> Here's a list of issues that I've found so far. I'm hoping someone can help.
>
> When I turn down the RF gain, the meter rises to max with RF at 4. Is that normal? Receives CW (and other tones on USB & LSB) well if JJY/WWV is ON and is fairly loud with the volume around 25%. When it’s off, I have to max the volume (and can still barely hear it) and never get anything but static. I'm hooked up to a 274(ish) foot square loop that works beautifully with my buddies Icom 706. Receives San Francisco Air Traffic Control (REALLY WELL) on ALL bands if JJY/WWV is ON. That's the ONLY voice transmission I've heard. Band 28 is 11M. How do I switch it back to 10M? I appreciate your time!!

The RF gain thing is pretty normal. Just leave it all the way up.

If you select a "normal" band (ie. not WWV) you need to tweak the drive control as well. This tunes part of the PA and the receive preselector. You'll hear a point where the noise comes up.

--
Gordonjcp MM0YEQ

48144. Re: [TS-520_820_530_830] 8 pin DIN connector for TS830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-13 18:38:42 UTC
From: Craig Roberts
Topic: 48117 Message: 48144

I'll give the 1980's Kenwood tech manual writers a pass. The original language was, no doubt, Japanese, and had to be translated. That's no mean feat.

Here's an illustration. At around the same time my TS-830S was being manufactured and documented, I visited a motorcycle repair shop that had begun importing the Yuasa brand motorcycle battery. To promote this new offering the shop displayed a huge, distributor-provided poster depicting a young Asian girl wearing a very modest white bikini, kneeling on a beach and facing the camera. The "quote" under the photo read: "Bold World Squad. You bet."

I rest my case.

73,

Craig
W3CRR

48145. RE: [TS-520_820_530_830] New Member Information

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-13 17:41:55 UTC
From: <bennie.jamerson@...>
Topic: 48110 Message: 48145

I'll have to check the dip out. I think it falls off, but was not looking for that.
The driver tubes you talked about. Is that more than one driver tube or are there only three tubes in all?
With my antenna it could be very easily that, but it tune to 1.5. That's my weekend project for this week. I downloaded the op manual, but have not had time to do more than glance at it. Now I have two weekend project.
I off to www.mods.dk. http://www.mods.dk.
Thanks.
KD5OHP Bennie

48146. Re: New (to me) TS-520 with some issues.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-13 18:44:16 UTC
From: <junkmailsux@...>
Topic: 48137 Message: 48146

I've tuned it with WWV off. Nothing changes.

remember, your posts are required to be signed with you name and call(if any)- Joe-WB7UQU

48147. Off-Topic: oportunity for fun and education

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-13 20:00:37 UTC
From: <scoutermike@...>
Topic: 48147 Message: 48147

Hello to All & I hope this finds you well,

I don't know if this has been reported here or not but with such a lot of new members logging in lately I thought this might be of interest. I've seen a lot of commentary bemoaning the fact that there is no real active community of kits & kit builders/developers today accompanied by a lot of new folks who want to learn. There is a thriving community of such folk out there. One vendor is somewhat altruistically sponsoring a gathering point for doing this(they do after all hope to sell you the parts). I refer to Jameco Electronics who sponsors the Club-Jameco website. They co-ordinate and offer ideas, briefs, and actual, honest-to-God kits on the site. In example; Here is one of the projects from today's bulletin: a resistive decade load.
"You can use this 5W box as a high-power load for testing a circuit’s ability to drive resistive loads or as a variable resistor for circuit creation. It has a 1% accuracy from 0.1 ohm to 999.9 ohms, and can be set to any resistance in 0.1 ohm steps." Sounds very much like something Terry might recommend for a workbench.
I've got no horse in this race and no connection to Jameco other rhan as a satisfied small parts customer. I just thought I'd pass along the opportunity to give it a look-see. A greater Amateur presence in their community might bring a greater presence of these foks in ours. Everybody wins. Here's a link for your consideration.
http://www.clubjameco.com/index.php/contents http://www.clubjameco.com/index.php/contents
If you sign-up (join the club) you'll get occasional bulletins describing projects, contests, & interesting stuff. I hope this helps someone.
Vy 73,
Mike
K8SYN
P.S.
I believe Radio Shack is also entering in to this concept. I haven't checked them out so I can't offer comment on the effort.

48148. Re: [TS-520_820_530_830] Re: New (to me) TS-520 with some issues.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-13 20:14:02 UTC
From: Gordon JC Pearce
Topic: 48137 Message: 48148

On Thu, Mar 13, 2014 at 11:44:16AM -0700, junkmailsux@... wrote:
> I've tuned it with WWV off. Nothing changes.

So, turn the RF gain up, select (for example) 7MHz, stick it down the bottom of the band because you're sure to hear some CW about 7.003MHz, and as you sweep the drive control from one end ot the other you don't hear a change in the noise level?

>
> remember, your posts are required to be signed with you name and call(if any)- Joe-WB7UQU

Not sure if that remark is aimed at me. I don't know if you've noticed, but all my posts are signed exactly the same way, in every email.

--
Gordonjcp MM0YEQ

48149. Re: [TS-520_820_530_830] D-104 and Kenwood TS-520 - wiring (again)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-13 20:08:51 UTC
From: <lpleach@...>
Topic: 48031 Message: 48149

I removed the mic head and tested. It is reacting with testing using a meter. I don't have a 'scope.

1. Check that one of the wires HAS continuity to pin 1 of the 4 pin plug.
Check
2. Check that the other wire HAS continuity to pin 4 of the 4 pin plug.
Check

3. Check that there is no short between the two wires in the mic head.
Check

4. While the meter is connected across the wires press the PTT. There should be no short.
Check

5. Check that there is NO continuity from EITHER wire to the case/stand.
Red wire has continuity.

6. Press the PTT and check that there is NO continuity from EITHER wire to the case/stand.
Red wire has continuity.

7. Check that there is NO continuity from EITHER wire to pin 3 of the 4 pin plug.
Red wire has continuity.

8. Press the PTT and verify NO continuity from EITHER wire to pin 3 of the 4 pin plug.
Red wire has continuity.

9. Check that there is NO continuity from EITHER wire to pin 2 of the 4 pin plug.
Check

10. Press the PTT and verify NO continuity from EITHER wire to pin 2 of the 4 pin plug.
Check

The red wire goes through some piece at the top of the handle where the red and white wires turn into black and green.. I took apart the head assembly and found that the red wire gets connectivity through the metal (painted black) piece that hold the wires. It conducts through the screw to the handle and then to the base.

Larry
KF5YZZ

48150. Re: New (to me) TS-520 with some issues.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-13 20:29:49 UTC
From: <junkmailsux@...>
Topic: 48137 Message: 48150

Turning the drive control does change the noise level but not enough to easily hear even with the volume at 100%. We originally thought is was the AF board. However, when I push the WWV button the volume is pretty loud even with the knob around 25%.

Chad
KK6DPE

48151. Re: New (to me) TS-520 with some issues.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-13 22:25:52 UTC
From: <wagstw46@...>
Topic: 48137 Message: 48151

What does the Marker signal do with JJY/WWV in OFF? Can you peak the S-meter with Drive control and if so what level do you get. Check with VFO at approx 200 on each band.

Terry K9TW

48152. Re: [TS-520_820_530_830] D-104 and Kenwood TS-520 - wiring (again)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-13 22:37:34 UTC
From: <wagstw46@...>
Topic: 48031 Message: 48152

Do you have a lap top with a sound card, a tape recorder, a MP3, iPod etc. Anything with an audio output or headphones jack that you can input audio signal of any kind in to the mic line? Might have to go to Radio Shack and buy a patch cord.

If not then just load the rig normally in CW mode and turn off the Screen Grid switch and do this:

1. Place meter to ALC
2. Place mode to LSB or USB
3. Set Mic gain to approx 3:00 or 8
4. Take a alligator test lead or a piece of insulated hook-up wire with each end stripped.
5. Hold one alligator clip or bare end of hook-up wire between fingers of one hand
6. Flip to Send
7. Touch the other end of the jumper lead to the bottom right pin of the mic jack

As you touch or tap the jumper lead on the mic audio input pin you should get good ALC meter deflection. If meter deflects and stays deflected at the 8 setting of the mic gain pot without touching jumper to the pin then just turn the gain down until it returns to zero and repeat tapping the jumper on the pin. Each time you touch jumper to the pin you should get a good meter deflection.

Terry K9TW

48153. Re: [TS-520_820_530_830] Re: New (to me) TS-520 with some issues.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-13 22:41:48 UTC
From: Wes Will
Topic: 48137 Message: 48153

On 03/13/2014 03:29 PM, junkmailsux@... wrote:

> Chad
> KK6DPE

Chad:

The mice were the least of your troubles. Sorry, your rig has had the "Golden Screwdriver" treatment, and you need to start from pretty much scratch getting it re-tuned and back into alignment.

I'm presently dealing with some of the same issues, specifically the CB conversion, which is that 28 MHz vice 10-meter business you mentioned. THAT is why I am sure some ham-handed hack has been in there with that golden screwdriver. We can HOPE they didn't ALSO try to "boost the power" by over-driving the finals.

A few days ago I posted specific instructions on replacing the crystals that were changed out. Apparently they were thought to be pretty good since no-one complained about my missing anything major. I will dig them back up and send them to your email directly rather than cluttering the list with it again.

You need to check the receive frequencies on all the 10-meter switch settings. Usually/So far as I have been able to find, they change the LAST TWO to cover 28 to 29 MHz, 600 KHz at a crack with some overlap and coverage above 29. If they only changed ONE of the crystals you need to know which one to replace, I'm going to bet it's both crystals, and you need to know which TWO of the three band switch settings are CB instead of 10M. That information gives you the crystals they changed.

You're going to be needing to get about $46.50-worth (shipped and all) of crystals cut and polished to bring it back to 10M from the 11M hack. The person you need to talk to is Sara Gore at International Crystal Manufacturing (ICM). Here is her contact information:
Sara Gore
800-725-1426x237
International Crystal MFG
10 N Lee
Oklahoma City, OK 73102
sarag@...

Tell her it's the same exact crystals that she just sent to me, order number was Q31875.

(If it's BOTH crystals, that is. If only one, you'll need to find the one by comparing the band-switch setting that has the CB frequencies to

the schematic of the oscillator board, and then pull only that crystal for replacement. The parts list for the radio in the service documents list the crystals by frequency; you just choose the one that was pulled, it's actually the simplest part of this whole mess.)

Once the replacements are made you will be going through the re-alignment steps in the manual. You're likely going to need to get help from someone local who has some tools. Of all the tools that you could get, at the VERY LEAST cabbage onto a VTVM, yes, one of those old boat-anchors with the great big swinging needle. They're fairly cheap at ham fests and even on auctions sites. You will likely need to build a probe or two, the RF one with three diodes is the most necessary (besides the straight-through stock one). Couple of bucks, or a junk-box trawl and an old Sharpie marker for the body. Piece of stray coax, and a brass nail for a probe point.

A VTVM is NECESSARY unless you have bajillion-bucks to get a modern high-input-impedance (10 or 11 MegOhm MINIMUM) fast-response digital meter. But the old swing-needle is still going to be better for most of this. We're not dealing in tenths or hundredths of a volt making a big difference, like some digital circuits. Mostly, if the meter swings at all, that's good enough for troubleshooting a lot of the time.

Do you have all the manuals, operating manual and service guide, downloaded? A high-resolution copy of the schematic, also. I've got a copy currently at Staples, being printed on their largest paper and then laminated in plastic. Dry-erase markers to scrawl on the plastic, makes chasing down circuits a little easier, particularly in "Large Print Edition" like this. My old eyes don't see so well any more.

Off the top of my head I don't know the wire to check for over-driving the finals. One wire will have been moved from the 210 post on the rectifier board to the 300 pin. Someone here (and there are a lot of those someones) smarter than I and / or has seen it already can tell you which to check. If it has been swapped, you will want to move it back to the 210 peg.

It's a stupid thing to have done but some of these idiots don't know what "logarithmic" means and think that adding a few volts to the finals makes a bit of difference on the receiving end. Doubling the power of course takes four times the input...

There are some of the things to check, and more will be handed to you as the questions get more specific and you know more. Study the circuits, including the descriptions in the operator's manual. Knowing what's going on helps figure out what to fix when it's not going. Best advice I know to give, there. These are really great radios, but they take some thinking, and a little TLC now and then. Good luck. I'll be posting those crystal-replacement directions shortly, directly to your email account.

--
Wes Will
SysAdmin

48154. A BIG Thank's

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-13 23:59:15 UTC
From: <n0dks1@...>
Topic: 48154 Message: 48154

I would like to Thank everyone for there help. I was able to get my TS- 520 back on the air.
I would like to give a special Thanks to Tom Bewick K2BEW for the side plate on the radio, it worked perfectly Thanks again for all of your help. I have the radio on the air and I'm getting
good reports on it.

Dave n0dks

48155. Ts-830S Switch S-21

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-14 00:02:12 UTC
From: Jim L
Topic: 48155 Message: 48155

The schematic shows switch S-21 between pins 3 and 5
on the remote vfo connector. It is not drawn with their usual
symbol for a relay contact, but rather as a N. C. slide switch.

I am guessing this switch is used to tell the 830S that a remote vfo is connected.

Can someone tell me where it is physically located?
What is its purpose.?

Thanks, Jim K8JL

48156. Re: [TS-520_820_530_830] Ts-830S Switch S-21

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-14 00:34:37 UTC
From: Joseph Stiles
Topic: 48155 Message: 48156

Jim,

This switch in question is a physical part of the connector. The indent is what trips the switch

73 Joe
WB7UQU

On Thursday, March 13, 2014 5:33 PM, Jim L <jladd52@...> wrote:

>The schematic shows switch S-21 between pins 3 and
5
>on the remote vfo connector. It is not drawn with
their usual
>symbol for a relay contact, but rather as a N.
C. slide switch.
>
>I am guessing this switch is used
to tell the 830S that a remote vfo is connected.
>
>Can someone tell me where it is physically
located?
>What is its purpose.?
>
>Thanks, Jim K8JL
>
>
>

48157. Re: [TS-520_820_530_830] A BIG Thank's

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-14 00:40:25 UTC
From: Joseph Stiles
Topic: 48154 Message: 48157

Dave,

  Nice job....kinda gives ya the warm glowy tube feeling when this like this happen

73 Joe
WB7UQU

On Thursday, March 13, 2014 4:59 PM, "n0dks1@..." <n0dks1@...> wrote:

>
>   I would like to Thank everyone for there help. I was able to get my TS- 520 back on the air.
>I would like to give a special Thanks to Tom Bewick K2BEW for the side plate on the radio,
>it worked perfectly Thanks again for all of your help. I have the radio on the air and I'm getting
>good reports on it.
>
>   Dave n0dks
>
>
>

48158. Re: New (to me) TS-520 with some issues.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-14 00:49:41 UTC
From: <junkmailsux@...>
Topic: 48137 Message: 48158

Terry K9TW, I'll try to get back out there tonight and check that. It depends on my pain level.

Wes, WOW! Thanks for all of the info.
28 on the BAND switch is the one that was changed to 11M. According to the manual, it's 36.895MHz that I'll need to change back. Being stuck on disability makes affording anything REALLY difficult so I might have to leave it on 11M. If I ever do have enough money for the crystal, I'll call Sara.

My buddy has a VTVM and a freq. counter but we don't have a sweep generator to do the alignment. I've been trying to find someone local that might let me borrow one. No luck so far.

I do have the manual and the service manual and, thanks to this group, I have the manuals with voltages on them.

I'll check out the overdrive issue next time I can get out to the shack. Pain level is a bit too high right now.

I REALLY appreciate your time and the info. I'm saving that for future reference.

Chad
KK6DPE

48159. Re: [TS-520_820_530_830] Cable from TS 830S to VFO 820.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-14 01:34:23 UTC
From: Jim Ladd
Topic: 48108 Message: 48159

Thanks Joe and Mike- I was aware of the freq. difference, but since the spreads were both 500khz I considered using a mixer to bring the 820 up to 5.5 to 6.
I would only use the remote a few times a year on tx to work some rare DX that is listening up the band.. RIT, XIT of no interest
.
It's probably not worth the trouble
.
I have found enough data to make a cable if I continue on this quest.
Jim.

48160. Re: [TS-520_820_530_830] Cable from TS 830S to VFO 820.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-14 01:57:02 UTC
From: Joseph Stiles
Topic: 48108 Message: 48160

You are welcome. Frankly...I don't think I'd want the headache of trying to
put together a mixer.

Also of note, your msgs/posts may sit in the "in basket" until one of the "overlords" reads
it and approves it. Sometimes this may take up to 24 hours...but we try and review all
msgs/posts
as quickly as possible, but sometimes even we are at the mercy of Yahoo!...if we can't see
it...we can't approve it.

  Enjoy your time with us.....

73 Joe
WB7UQU

On Thursday, March 13, 2014 6:50 PM, Jim Ladd <jladd345@...> wrote:

>Thanks Joe and Mike- I was aware of the freq. difference, but since the spreads were
>both 500khz I considered using a mixer to bring the 820 up to 5.5 to 6.
>I would only use the remote a few times a year on tx to work some rare DX that is
>listening up the band.. RIT, XIT of no interest
>.
>It's probably not worth the trouble
>.
>I have found enough data to make a cable if I continue on this quest.
>Jim.
>
>
>

48161. Re: [TS-520_820_530_830] D-104 and Kenwood TS-520 - wiring (again)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-14 09:38:42 UTC
From: Mike W5RKL
Topic: 48031 Message: 48161

Larry,

You said:

"The ALC meter does work when receiving"

If I may ask, where did you get the idea there is a receive ALC meter?

If I may ask, do you know what ALC is and how it is used in the KW hybrids?

There is no such thing as a receive ALC meter.

73
Mike W5RKL

On 3/13/2014 8:26 AM, lpleach@... wrote:
>
> The ALC meter does work when receiving.
> And yes, the meter goes all the way over with the gain rotated fully CCW.
>
> I think that at this time, unless someone has a good idea of what is
> going on, I'm going to put this on hold until I can verify this mic on
> another radio or I get another mic to verify the radio,
>
> Larry
> KF5YZZ
>
>

48162. Re: [TS-520_820_530_830] Cable from TS 830S to VFO 820.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-14 10:04:12 UTC
From: Mike W5RKL
Topic: 48108 Message: 48162

Actually Jim, I agree with Joe and your comment:

"it's probably not worth the trouble"

You would be much better off looking for and obtaining either a VFO-520 or VFO-820 for your 820. Yes, a VFO-520 will work, plug and play, with a TS-820/TS-820S and vice verse, a VFO-820 will work plug and play with a TS-520/TS-520S/TS-520SE.

73
Mike W5RKL

On 3/13/2014 8:34 PM, Jim Ladd wrote:
> Thanks Joe and Mike- I was aware of the freq. difference, but since
> the spreads were
> both 500khz I considered using a mixer to bring the 820 up to 5.5 to 6.
> I would only use the remote a few times a year on tx to work some rare
> DX that is
> listening up the band.. RIT, XIT of no interest
> .
> It's probably not worth the trouble
> .
> I have found enough data to make a cable if I continue on this quest.
> Jim.
>

48163. Re: New (to me) TS-520 with some issues.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-14 11:22:01 UTC
From: <wagstw46@...>
Topic: 48137 Message: 48163

Chad

Not sure why you think you need a Sweep Generator? Only place you need that for is checking and aligning the Rx and TX bandpass filters (BPF) and I would not worry about them at this point. Typically after a CB hack you can replace the Het Osc crystals that were swapped out and then perform the Coil Pack alignment that is detailed under the Maintenance Section of your Owners Operating Instruction Manual. Not likely that they messed with the BPFs. They may or may not have messed with the 10 meter Ant, Mixer and Drive coils after the crystal change out.

You will use the Marker as your standard RF signal generator and the S meter as your RF measuring indicator.

Study the procedure and do in proper sequence and you Must use proper alignment tool. Must inspect all the coil slugs to make sure none cracked before you proceed. Also look at the cardboard formers and make sure none are ripped off the PC boards. If encounter a stuck core do not force it. Can apply small amount of WD-40 with a point of toothpick at top edge of the core to former interface to see if that frees the core. If not can apply small tip of hot soldering iron to the core very briefly.

Again not sure why you are wanting a Sweep Generator at this point?? It is not a troubleshooting instrument. If you have low S meter indication on any band after doing the coil pack alignment then come back for additional help.

Terry K9TW

48164. TS-830S ALC/Drive levels

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-14 13:37:39 UTC
From: <crgrbrts@...>
Topic: 48164 Message: 48164

Two questions about Drive and ALC metering on the hybrids (or at least the 530/830):

1. Do VR6 and VR7 on the IF board actually regulate the threshold and maximum ALC levels or merely the metering of them?

2. Is it normal for the Drive level -- as indicated by the ALC meter scale -- to vary from one end of a given band to another? (And to vary signficantly from one band to another).

Curiously,
Craig
W3CRR

48165. Re: Using Yk-88C1 and YG-455C1 in hybrids

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-14 16:15:17 UTC
From: Fortra
Topic: 48165 Message: 48165

Hi Guys,

briefly:) first question regarding DFC-230 and it's use in TS-530S and TS-830S
went unanswered:(

Here is another one:)

I have several Cw filters mainly YK-88C-1 and YG-455C-1 and YG-455CN-1 laying around.
Would like to use them in TS-530SP and TS-830S.

Reffereing to both service manuals, could i simply change carrier frequency oscillator for cw in trcvx
in order to meet central frequencies of filters in question? i.e.: if said carrier oscilator 8831,7 kHz
for Cw filter with center frequency 8830,7 In my case where cw filter has central frequency 8830,
could i move carrier oscillator to 8830,7 ??
(Or at such a value frequency wise, that i could still has beat tone using IF shift in both cases?)
Main frequency of carrier oscillator could be changed by couple of hundreds Hertz up or down,
right??

Thanks for space,

Nermin S58DX

48166. Re: [TS-520_820_530_830] New Member Information

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-14 14:31:46 UTC
From: <bennie.jamerson@...>
Topic: 48110 Message: 48166

Thanks Mike. You guys have given me a lot to check out.
I thought I knew something about the 530. But I have already learned a lot.
73
Bennie KD5OHP

48167. Re: [TS-520_820_530_830] D-104 and Kenwood TS-520 - wiring (again)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-14 12:37:27 UTC
From: <lpleach@...>
Topic: 48031 Message: 48167

I just use that term ALC to refer to the meter on the rig as opposed to the meter on the voltmeter.
I'm sure I'm not be using the terminology correctly. Don't get caught up in that. It doesn't help.

Larry
KF5YZZ

48168. Re: [TS-520_820_530_830] D-104 and Kenwood TS-520 - wiring (again)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-14 17:07:34 UTC
From: Ken Winterling
Topic: 48031 Message: 48168

Larry,

Good work. You need to insulate that RED wire since your test results indicate it is connected to frame ground (pin 3 on the 4 pin plug) and is grounding one side of the mic element. Once you have it insulated repeat all of the tests. I say "all" tests because that will verify your corrective action as well as assure you that you didn't introduce any new issues (it happens!).

You are making progress - hang in there!

Ken
WA2LBI

On Thu, Mar 13, 2014 at 4:08 PM, <lpleach@...> wrote:

>
>
> I removed the mic head and tested. It is reacting with testing using a
> meter. I don't have a 'scope.
>
>
> 1. Check that one of the wires HAS continuity to pin 1 of the 4 pin plug.
> Check
> 2. Check that the other wire HAS continuity to pin 4 of the 4 pin plug.
> Check
> 3. Check that there is no short between the two wires in the mic head.
> Check
> 4. While the meter is connected across the wires press the PTT. There
> should be no short.
> Check
> 5. Check that there is NO continuity from EITHER wire to the case/stand.
> Red wire has continuity.
> 6. Press the PTT and check that there is NO continuity from EITHER wire
> to the case/stand.
> Red wire has continuity.
> 7. Check that there is NO continuity from EITHER wire to pin 3 of the 4
> pin plug.
> Red wire has continuity.
> 8. Press the PTT and verify NO continuity from EITHER wire to pin 3 of
> the 4 pin plug.
> Red wire has continuity.
> 9. Check that there is NO continuity from EITHER wire to pin 2 of the 4
> pin plug.
> Check
> 10. Press the PTT and verify NO continuity from EITHER wire to pin 2 of

> the 4 pin plug.
> Check
>
>
> The red wire goes through some piece at the top of the handle where the
> red and white wires turn into black and green.. I took apart the head
> assembly and found that the red wire gets connectivity through the metal
> (painted black) piece that hold the wires. It conducts through the screw to
> the handle and then to the base.
>
> Larry
> KF5YZZ
>
>

48169. Re: TS-830S ALC/Drive levels

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-14 17:10:59 UTC
From: <wagstw46@...>
Topic: 48164 Message: 48169

VR6 and VR7 have nothing to do with the ALC bus voltage other than monitoring it. They are the zero and span adjustments for a reverse reading high impedance FET based voltmeter.

Look at Q30 and you will see it is a FET. Its Gate is hanging on the ALC bus. This bus is very high impedance power supply and cannot support any load current. Is just a dc control voltage that feeds Gate 2 of the TIF amp. A FET is used as its Gate offers very high input impedance so the ALC bus doesnt know it is there. If Q30 fails it will pull the bus down and your RF drive from the TIF amp will be reduced. Rare but it does happen same as Q11 for AGC bus.

ALC threshold is a function of the difference between the positive peak of the RF drive envelope and where the 6146 control grid operating bias negative dc voltage is set at (you set that when you set the zero signal resting plate current). Some set this to 50 ma and other to 60ma which varies the offset voltage level). The higher the RF drive envelope is compared to this dc offset voltage the lower the ALC bus voltage will go and the higher the meter will deflect. The lower the peak RF drive envelope to the dc offset voltage the higher the ALC bus remains and less meter deflection. It is a function of how much grid current flows in the FG line and how hard Q19 is turned on. Higher rf voltage on the positive peak means grid more positive with respect to the cathode and more grid current.

For example if the control grids bias voltage has been set for -60vdc then you will need approx 42.5 rms rf drive volts to just start to see any ALC indication. 42.5 x 1.414 = 60.1 peak rf volts. 60.1 - 60 = .10vdc delta. The control grid is now 0.10vdc positive with respect to the cathode.

Any RF drive voltage less than 42.5 rms or 60.1 peak rf volts means no grid current which means no ALC action or indication. Will still have RF output on the wattmeter just no ALC indication. Normal RF drive varies from band to band typically ranging from approx 46 to 49 rms rf volts. This should give you max ALC indication as you have max grid current (approx 45ua).

Once you go above approx 42.5 rms rf drive volts the 6146 control grid is know positive with respect to the cathode and grid current starts to flow (very very low ua grid current with a max of approx 45ua). When this ua grid current flows Q19 the ALC amp transistor (it is configured as a dynamic zener diode) on the Audio board is biased on and provides a very small negative voltage at its Collector (approx -1.0vdc) that bucks or series opposes the +3.6vdc RF-1 voltage on the bus lowering the bus and reducing the control voltage to the TIF amp Q29.

I will let someone else respond to question number 2.

Terry K9TW

---In TS-520_820_530_830@yahoogroups.com, <crgrbrts@...> wrote :

Two questions about Drive and ALC metering on the hybrids (or at least the 530/830):

1. Do VR6 and VR7 on the IF board actually regulate the threshold and maximum ALC levels or merely the metering of them?

2. Is it normal for the Drive level -- as indicated by the ALC meter scale -- to vary from one end of a given band to another? (And to vary signficantly from one band to another).

Curiously,
Craig
W3CRR

48170. Re: [TS-520_820_530_830] Re: TS-830S ALC/Drive levels

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-14 17:36:06 UTC
From: Craig Roberts
Topic: 48164 Message: 48170

Aha! I suspected as much (minus the math).

Many thanks once again, Terry.

73,

Craig
W3CRR

48171. Re: [TS-520_820_530_830] Re: TS-830S ALC/Drive levels

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-14 19:05:39 UTC
From: <wagstw46@...>
Topic: 48164 Message: 48171

Craig:

Really helps to graph it to see it, but I cant do that with this medium. Make yourself a graph with a Y axis that swings positive and negative (up and down) either side of the X-axis (normal zero) and place a dotted line on the Y axis at -60vdc and extend it from left to right. This is where your 6146 control grids are sitting with respect to the cathode. All you really need is Quadrant 1 and 4 (upper right and lower right) .

Now draw one cycle of the approx 138vac P-P RF drive envelope (49rms X 2.828).Start at zero degrees on the -60 dotted line axis and draw positive peak crossing the X-axis and peaking at + 9 at 90 degrees and then back down thru zero crossing at -60 dotted line at 180 degrees and end the negative peak at -129 at 270 degrees and bring it back to -60 at 360 degrees. Now you can see one complete RF cycle and will note very few degrees of the positive going drive envelope is above X axis or Zero. You can see that the drive envelope has to swing above Zero X-axis for the control grid to become Positive with respect to the Cathode and to do that it has to overcome this negative dc offset that the operating bias presents. So you will have pulses of RF drive that cause grid current to flow. Remember these pulses are at RF at a mhz rate ie 14.2mhz. Also, in SSB mode this approx 45ua grid current is essentially varying at an audio rate.

Also, I forgot to mention to you that the RF drive voltage I gave you in response to question 1 is for 20 meters at approx 200 on the VFO (TX Level Diagram). 49 rms rf volts drive is about max for a TS830.

That should help you figure out part of your No 2 question which is really two questions with one answer being No and one being Yes!

Terry K9TW

48172. Re: Cable from TS 830S to VFO 820.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-14 16:59:14 UTC
From: Wayne Schrubbe
Topic: 48108 Message: 48172

Hi to All!,
I just got a KW VFO 820 and hooked it up to my TS 520s. And it works great! I got the cable off ebay.
You can get them premade or a kit to make your own. It was just a plug, ground and play!
It does not match my 520s, but it works just fine. Hope this helps.....
73
Wayne N9RXB

.

48173. Re: New (to me) TS-520 with some issues.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-14 18:04:03 UTC
From: <junkmailsux@...>
Topic: 48137 Message: 48173

My friend and I were going to do a complete alignment since this radio seems to have been abused by the previous owner. I don't know if it's a factory thing but nearly all of the cans have a black line on them. I'm assuming that's where the groove was pointing. There are quite a few that don't line up with the marks. I figured this definitely meant someone had been in there tinkering. The first step in the alignment calls for a sweep generator.

Chad
KK6DPE

48174. DDS VFO 530 830 Update part 2 3/14/2014

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-14 21:27:51 UTC
From: <cocobean64@...>
Topic: 48174 Message: 48174

Hello Everyone,

For those interested, here is another update.
I've made some changes from the original concept.

The Arduino Uno in the radio, has been replaced with an Arduino Mega.
The extra I/O capabilities of the Mega now allow for the oscillator to be mounted in the radio.
There will only be three wires required to communicate between the internal Arduino and the external Arduino, no other connections are needed between "Radio" and "External VFO". This simplifies the set-up.

You can run the radio without having the external VFO powered up. The Arduino in the radio senses that the external unit is off and automatically will select the original internal analog VFO in the radio.
Similarly, if you power up the external VFO, it is sensed automatically and the DDS VFO will be selected.

Its been a lot of work, and boatloads of fun to "tinker with" and make it work. Still need the finishing touches, but its sooooo close...LOL
Going to try it on the air tonight.....

Attachments are not allowed here so I will put the link in here to the latest video. My apologies for the quality this time.
Here is the link.....http://youtu.be/KZN__HEe5js http://youtu.be/KZN__HEe5js

73 everyone....
Bart KB8BAB

48175. Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-14 21:06:25 UTC
From: <christopherlarwood@...>
Topic: 47979 Message: 48175

A little further information - the HV meter reads 900 volts so a little higher than the 800 given in the manual.
I've had a look for any obvious blown components - particularly capacitors and all appeared OK with no signs of bulging -The HV caps "appear" in normal state & given the above they would appear to be functional.
I swapped another driver tube in with no changes noted. I removed the finals and to my uneducated eye they were intact. The filaments both glowed with heater on and responded to the heater switch.
There was a ceramic cap in the final cage that didn't look great which goes from the choke to the plate variable capacitor. The fan in the PA is functional. The tube closer to the rear of radio does not illuminate as much as the "front" tube.
Not scientific but eliminating the clearly obvious is a start.
What to check next ? with just a multi meter to work with!
VK5LTD - Christopher

48176. Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-14 21:11:23 UTC
From: <christopherlarwood@...>
Topic: 47979 Message: 48176

After some further reading, with the plate voltage indication ie meter pegs full scale, - I figure cathode & screen resisters would be worth looking at. Just check with a multi meter for values to ascertain if still OK?
VK5LTD - Christopher

48177. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-14 21:48:32 UTC
From: Wes Will
Topic: 47979 Message: 48177

On 03/14/2014 04:11 PM, christopherlarwood@... wrote:
> After some further reading, with the plate voltage indication ie meter pegs full scale,

Christopher:

Just to be sure this got through, and to make certain that things like "900 VDC" actually sank in to your conscious mind, you DO in fact realize that the voltages and currents in that part of the rig can

KILL YOU.

As in "dead," "silent key."

From here, we can't tell who knows how to what, so I just want to be sure this got in there. Nobody wants to hear that your rig is being auctioned after the funeral, OK? NOT being insulting or snide here, just seen too many people hurt working on high potentials (from back in the tube telly days, as well as ham gear).

As to using a plain-vanilla FET or transistor multimeter, with at BEST a one-megohm input impedance, the act of putting it in the circuits you're dealing with here will more than likely load the thing down to the point it won't function any longer at all. (And come back up when you pull the meter, so likely no real harm done.) And the reading will be WAY off of what the actual voltages are when the thing is operating.

THAT is why the whole push to getting everyone with a hybrid or straight-tube rig equipped with a vacuum-tube (valve) voltmeter. They have input impedances in the 10 to 11 megohm ranges, and that quantum difference makes them usable in this kind of environment.

--
Wes Will
N9KDY

48178. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-14 21:53:09 UTC
From: Wes Will
Topic: 47979 Message: 48178

Sorry, forgot to ask the other question. About the capacitor and coil inside the PA cage, and it looking "bad." Describe "bad" please? Burnt? Browned? Charred? Sort of leaking a waxy kind of substance perhaps? How about the state of the coil? Is it sort of dark-brown, and looks as if it has been subjected to intense heat by any chance?

That information is very indicative of some things that could have been done to your radio, or problems that could be causing this issue you're seeing. Please give us some details here, if you could?

--
Wes Will
N9KDY

48179. Re: New (to me) TS-520 with some issues.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-14 22:25:46 UTC
From: <wagstw46@...>
Topic: 48137 Message: 48179

That is true that after setting the 9vdc regulated and the RF-1 voltages the Service Manual calls for aligning the Rx and Tx bandpass filters. A sweep gen and detector and regular RF sig gen to input the KW markers is needed for this. The coils all interact and takes a little experience to align them. Also the response curve will not typically be the nice artist rendition that is in the manual.

Can find out where BPFs are at with a regular RF sig gen and stepping thru from approx 8 mhz to 9.5 mhz in 100khz steps and smaller steps as you near Fc and measuring and recording the RF output voltage and then plotting the points on graph paper or excel. A bit tedious and not good for adjusting, but will tell you if they have been messed with.

It is possible that previous owner has messed with all the IF and RF transformers. I would ignore all the black marks on top of the cans. You could align every core slot to those marks, but at how many turns? The marks are typically useless.

The very first thing you should do is use the Marker signal to see what your S meter indication is on each band. Should be very close to S8 to S9 on all bands except 10 meters if the receiver is in fully functional and in good state of trim. I would concentrate on the receiver first.

The easiest way to peak up the Rx performance is to use the Marker signal and panel meter and perform the abbreviated alignment in Sect 6 Maintenance of your Operating Manual. In about 30 minutes can have rig in very good state of tune assuming no failures or degraded state. People call this doing the Coil Pack alignment even though you will also do some of the IFTs. You will notice they caution here not to touch the BPF coils.

Only thing you cannot do precisely is calibrate the S-meter, but can get it close by doing the Coil Pack alignment and then on 20 meters at 14.2 mhz adjust the span control VR-2 for an S9 indication. This is good enough for what an S-meter should be used for. Need a good RF sig gen to input -73dBm (50uv) for more accurate cal, but as I said using the Marker gets you close. An S-meters real value is for making comparisons ie barefoot vs linear or dipole vs beam or beam front to back. Some folks crank VR-2 up so they dont have to make excuses for a scotch S meter. They like to see it dance. It has no effect on the receiver sensitivity.

I am trying to tell you how in very short amount of time with no test gear other than rigs Marker as a sig gen and the S-meter as rf detector you can get the rig operating very well. After proving it is functional can then always perform the full service manual alignment but not something for inexperienced person to take on and not a troubleshooting or routine evolution.

Of course your rig and free to do whatever you want.

Have fun and be careful around the lethal voltages.

Terry K9TW

48180. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-14 23:34:29 UTC
From: Mike W5RKL
Topic: 47979 Message: 48180

Christopher,

I don't understand what you are actually saying. You first said the HV meter indicated "900VDC" which you said was higher than the 800VDC stated in the manual. You then said the HV meter pegged fully to the right. You are saying to different things about the HV meter. The HV meter switch position only works when the 520 transmitter is keyed.

Are you sure you are looking at the meter correctly?

73
Mike W5RKL

On 3/14/2014 4:11 PM, christopherlarwood@... wrote:
>
> After some further reading, with the plate voltage indication ie meter
> pegs full scale, - I figure cathode & screen resisters would be worth
> looking at. Just check with a multi meter for values to ascertain if
> still OK?
>
> VK5LTD - Christopher
>
>
>

48181. Re: New (to me) TS-520 with some issues.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-15 01:54:45 UTC
From: <junkmailsux@...>
Topic: 48137 Message: 48181

Terry, earlier you had asked....

"What does the Marker signal do with JJY/WWV in OFF? Can you peak the S-meter with Drive control and if so what level do you get. Check with VFO at approx 200 on each band."

I don't think I did it right. 20M, 40M and 80M pegged the meter. I'll do it again tomorrow after the pain meds kick in.

I'm also going to get my buddy over hear around 1:00 (Pacific) tomorrow to go through your previous message and do the Coil Pack alignment.

THANKS!!

Chad
KK6DPE

48182. Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-15 02:11:36 UTC
From: <christopherlarwood@...>
Topic: 47979 Message: 48182

Wes - I understand the HV the PA can still contain is lethal. After waiting 5 minute from power off with leads removed, I ground the top of the choke for 10 seconds, then do it again. In the files section there is a image of exactly what to do so I think I'm taking the required precautions.

Q "Sorry, forgot to ask the other question. About the capacitor and coilinside the PA cage, and it looking "bad." Describe "bad" please? Burnt? Browned? Charred? Sort of leaking a waxy kind of substance
perhaps?"
A: This is a hefty ceramic cap - it is not burnt, charred or brown but is breaking away from the legs. I do have a final cage replacement kit from hybrid restore

Q" How about the state of the coil? Is it sort of dark-brown, and looks as if it has been subjected to intense heat by any chance?
A The windings on the chock are still light bright colour - not brown

I made this clip for a close up of the PA & other main caps
https://www.youtube.com/watch?v=Yw0tIoSJ5FM https://www.youtube.com/watch?v=Yw0tIoSJ5FM

VK5LTD - Christopher

48183. Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-15 01:59:48 UTC
From: <christopherlarwood@...>
Topic: 47979 Message: 48183

Just to clarify
When meter is in IP position - Mode Tune, CW or SSB - Meter pegs instantly to the right
When meter is in the HV position - reading is 900volts while in transmit
When meter is in RF position - No output CW or SSB while in transmit

Vk5LTD Christopher

48184. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-15 03:20:33 UTC
From: Mike W5RKL
Topic: 47979 Message: 48184

Christopher,

My first thought is the bias pot may be very dirty causing loss of final tube grid bias voltage. The other possibility is the bias supply, -C on the Rectifier Unit, has failed.

Remove all power, wait for the caps to discharge (use a DC volt meter to verify the caps have discharged), then clean the bias pot with contact cleaner. Use canned air or compressed air to remove all cleaner residue. This cleaning process requires removing the top and bottom cabinet covers and turning the 520 on it's maintenance side (see the 520 manual for details on the maintenance position).

Connect a DC volt meter (set to measure 500VDC or more) to pin 5 of the 520 6146 final tube socket, it doesn't matter which socket since both 6146 grid pins are wired in parallel. Set the SG switch to OFF, and power up the 520. The grid voltage should be approximate -100VDC or so in receive. Set the Mode switch to SSB (USB or LSB, it doesn't matter) then key the transmitter (use the SEND key). The grid voltage should drop to approximate -65VDC. Unkey the transmitter. If the grid voltage drops to -65VDC or so with the transmitter keyed then power the 520 OFF, set the SG switch to ON, and put the cabinet cover back on and test for proper operation.

If the above test results in final tube socket pin 5 grid voltage at "0VDC", check the bias supply, -C, on the Rectifier Unit, it's possible it's failed, shorted capacitor taking out the bias supply diode.

Some time the bias pot can get a dirty spot on the resistive element causing loss of connection from the wiper to the resistive element. This will result in loss of bias voltage to the final tubes causing the IP meter to peg fully to the right and the final tubes conducting to saturation. Cleaning the bias pot quite often eliminates this problem but some times the bias supply can fail causing the same symptoms, 6146's conducting to saturation levels (IP pegs fully to the right in transmit).

73
Mike W5RKL

On 3/14/2014 8:59 PM, christopherlarwood@... wrote:
>
> Just to clarify
>
> When meter is in IP position - Mode Tune, CW or SSB - Meter pegs
> instantly to the right
>

> When meter is in the HV position - reading is 900volts while in transmit
>
> When meter is in RF position - No output CW or SSB while in transmit
>
> Vk5LTD Christopher
>
>
>

48185. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-15 03:22:55 UTC
From: Mike W5RKL
Topic: 47979 Message: 48185

You can set the SG switch to OFF and measure the 6146 grid voltage with the transmitter keyed. Setting the SG switch to OFF will prevent the 6146s from conducting and you can measure the 6146 grid voltage (pin 5 on the 6146 socket) while adjusting the bias pot to ensure the bias voltage varies up and down in a smooth manner. If cleaning the bias pot fixed the loss of grid bias to the final tubes then button the 520 up and perform the final tube 60ma idling current adjustment outlined in the 520 operator's manual.

73
Mike W5RKL

On 3/14/2014 8:59 PM, christopherlarwood@... wrote:
>
> Just to clarify
>
> When meter is in IP position - Mode Tune, CW or SSB - Meter pegs
> instantly to the right
>
> When meter is in the HV position - reading is 900volts while in transmit
>
> When meter is in RF position - No output CW or SSB while in transmit
>
> Vk5LTD Christopher
>
>
>

48186. RE: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-14 22:13:41 UTC
From: Robert Port
Topic: 47979 Message: 48186

There are plans to build a chicken stick. Unplug unit from wall, let cord dangle to ground and use chicken stick to save your life. Just saying.

Robert.

From: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com] On Behalf Of Wes Will
Sent: Friday, March 14, 2014 3:49 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830] Re: TS-520 does not xmit

On 03/14/2014 04:11 PM, christopherlarwood@gmail.com wrote:
> After some further reading, with the plate voltage indication ie meter pegs full scale,

Christopher:

Just to be sure this got through, and to make certain that things like "900 VDC" actually sank in to your conscious mind, you DO in fact realize that the voltages and currents in that part of the rig can

KILL YOU.

As in "dead," "silent key."

From here, we can't tell who knows how to what, so I just want to be sure this got in there. Nobody wants to hear that your rig is being auctioned after the funeral, OK? NOT being insulting or snide here, just seen too many people hurt working on high potentials (from back in the tube telly days, as well as ham gear).

As to using a plain-vanilla FET or transistor multimeter, with at BEST a one-megohm input impedance, the act of putting it in the circuits you're dealing with here will more than likely load the thing down to the point it won't function any longer at all. (And come back up when you pull the meter, so likely no real harm done.) And the reading will be WAY off of what the actual voltages are when the thing is operating.

THAT is why the whole push to getting everyone with a hybrid or straight-tube rig equipped with a vacuum-tube (valve) voltmeter. They have input impedances in the 10 to 11 megohm ranges, and that quantum difference makes them usable in this kind of environment.

--
Wes Will
N9KDY

48187. Re: New (to me) TS-520 with some issues.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-15 13:16:35 UTC
From: <wagstw46@...>
Topic: 48137 Message: 48187

OK not much to do RIGHT.

Simply set the VFO to around 250, AGC to Slow, meter switch to ALC, Drive control at 1200, Function Switch to 25khz or CAL position, tune the VFO to find and peak the 25khz cal signal on the S-meter indication, adjust the Drive control to peak the S-meter reading.

Marker signal should never peg the S-meter on any band. Typically would see S8 to S9 on most bands and lower on 10 meters maybe S5 to S7.

Terry

48188. Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-15 13:09:29 UTC
From: <christopherlarwood@...>
Topic: 47979 Message: 48188

Have given the Bias pot on the side panel a good spray with contact cleaner - key down in IP meter still pegs instantly across. Turning the bias adjustment pot made no difference at all to needle indication Turned SG switch to OFF and attempted to measure VDC on PIN 5 of socket with tube removed. It is not easy to find a PIN diagram for the 6146 socket but from what I did find indicated pin 5 is to the immediate right of the positioning notch. ie about 1 oclock position. Found zero output from this pin. I checked other pins also and most measured zero with a couple actually going backwards? Still not certain I;ve taken this measurement correctly. If I have then next step would be as per Mikes suggestion; If the above test results in final tube socket pin 5 grid voltage at;0VDC, check the bias supply, -C, on the Rectifier Unit, its possible its failed, shorted capacitor taking out the bias supply diode.

What should bias supply measure? If simply a VDC, I should be able to test with my simple multimeter.

Thanks for suggestions thus far, it's an education!
VK5LTD - Christopher

48189. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-15 15:44:24 UTC
From: Mike W5RKL
Topic: 47979 Message: 48189

Christopher,

It does appear the bias supply on the Rectifier Unit, -C terminal, has failed.

You should keep the SG switch in the OFF position, this will result in "0VDC" applied to the final tube screens which will prevent electron flow in the final tubes. With 0VDC on the final tube screens, the final tube screens will appear "negative" in respect to the cathode which will "repel" electrons that flow towards the screen and plate, back to the cathode, hence preventing electron flow in the final tubes.

If you left the SG switch in the "ON" position then the normal positive screen voltage will be applied to the final tube screens and with loss of grid bias voltage to the final tubes(failure in the Rectifier Unit's -C supply), the final tubes will conduct fully, to saturation levels, "even in receive", and you don't want that to happen while you are checking the -C bias supply! Why would the final tubes conduct fully in receive? It's simple, loss of bias voltage due to failure in the -C bias supply, will cause the grids of the final tubes to be 0VDC allowing current to flow in the final tubes, even in receive!

73
Mike W5RKL

On 3/15/2014 8:09 AM, christopherlarwood@... wrote:
>
> Have given the Bias pot on the side panel a good spray with contact
> cleaner - key down in IP meter still pegs instantly across. Turning
> the bias adjustment pot made no difference at all to needle indication
> Turned SG switch to OFF and attempted to measure VDC on PIN 5 of
> socket with tube removed. It is not easy to find a PIN diagram for the
> 6146 socket but from what I did find indicated pin 5 is to the
> immediate right of the positioning notch. ie about 1 oclock position.
> Found zero output from this pin. I checked other pins also and most
> measured zero with a couple actually going backwards? Still not
> certain I;ve taken this measurement correctly. If I have then next
> step would be as per Mikes suggestion; If the above test results in
> final tube socket pin 5 grid voltage at;0VDC, check the bias supply,
> -C, on the Rectifier Unit, its possible its failed, shorted capacitor
> taking out the bias supply diode.
>
> What should bias supply measure? If simply a VDC, I should be able
> to test with my simple multimeter.
>
> Thanks for suggestions thus far, it's an education!

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>
> VK5LTD - Christopher
>
>
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48190. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-15 15:46:27 UTC
From: Mike W5RKL
Topic: 47979 Message: 48190

I forgot to mention, the -C terminal on the Rectifier Unit (Bias supply) should be approximately -110VDC or so. Notice that's a "negative" voltage so you will have to set your DC volt meter to measure a "negative" voltage.

73
Mike W5RKL

On 3/15/2014 10:44 AM, Mike W5RKL wrote:
> Christopher,
>
> It does appear the bias supply on the Rectifier Unit, -C terminal, has
> failed.
>
> You should keep the SG switch in the OFF position, this will result in
> "0VDC" applied to the final tube screens which will prevent electron
> flow in the final tubes. With 0VDC on the final tube screens, the
> final tube screens will appear "negative" in respect to the cathode
> which will "repel" electrons that flow towards the screen and plate,
> back to the cathode, hence preventing electron flow in the final tubes.
>
> If you left the SG switch in the "ON" position then the normal
> positive screen voltage will be applied to the final tube screens and
> with loss of grid bias voltage to the final tubes(failure in the
> Rectifier Unit's -C supply), the final tubes will conduct fully, to
> saturation levels, "even in receive", and you don't want that to
> happen while you are checking the -C bias supply! Why would the final
> tubes conduct fully in receive? It's simple, loss of bias voltage due
> to failure in the -C bias supply, will cause the grids of the final
> tubes to be 0VDC allowing current to flow in the final tubes, even in
> receive!
>
> 73
> Mike W5RKL
>
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>
>
>
>
> On 3/15/2014 8:09 AM, christopherlarwood@... wrote:
>>
>> Have given the Bias pot on the side panel a good spray with contact
>> cleaner - key down in IP meter still pegs instantly across. Turning
>> the bias adjustment pot made no difference at all to needle

>> indication Turned SG switch to OFF and attempted to measure VDC on
>> PIN 5 of socket with tube removed. It is not easy to find a PIN
>> diagram for the 6146 socket but from what I did find indicated pin 5
>> is to the immediate right of the positioning notch. ie about 1 oclock
>> position. Found zero output from this pin. I checked other pins also
>> and most measured zero with a couple actually going backwards? Still
>> not certain I;ve taken this measurement correctly. If I have then
>> next step would be as per Mikes suggestion; If the above test results
>> in final tube socket pin 5 grid voltage at;0VDC, check the bias
>> supply, -C, on the Rectifier Unit, its possible its failed, shorted
>> capacitor taking out the bias supply diode.
>>
>> What should bias supply measure? If simply a VDC, I should be able
>> to test with my simple multimeter.
>>
>> Thanks for suggestions thus far, it's an education!
>>
>> VK5LTD - Christopher
>>
>>
>

48191. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-15 17:07:06 UTC
From: Jan Servaites
Topic: 47979 Message: 48191

Mike,
I'll check this out with my scope, but I think the screen on/off switch, applies some -C (through a 100k resistor) in the off position (check out the schematic to verify this for me). So I would think the screen has a very high negative potential in off position?
Jan N8CBX

Mike W5RKL wrote:

> You should keep the SG switch in the OFF position, this will result in
> "0VDC" applied to the final tube screens which will prevent electron
> flow in the final tubes. With 0VDC on the final tube screens, the
> final tube screens will appear "negative" in respect to the cathode
> which will "repel" electrons that flow towards the screen and plate,
> back to the cathode, hence preventing electron flow in the final tubes.
>
> Mike W5RKL
>
>
>

48192. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-15 16:38:42 UTC
From: Mike W5RKL
Topic: 47979 Message: 48192

Yes, Jan, that's right "IF" the bias supply, -C, is working. However, based on Christopher's initial voltage checks at the grid of the final tubes, pin 5, and cleaning of the bias pot, the final tube grid bias voltage is 0VDC which could indicate the Rectifier Unit's -C bias supply has failed.

Normally, when the -C bias supply is working properly, placing the SG switch to the OFF position would, in fact, apply a "negative" voltage "from" the -C supply. However, if Christopher's -C supply is, in fact, bad then placing the SG switch to the OFF position would result in 0VDC being applied to the final tube screens. This would prevent the final tubes from conducting in transmit and receive.

As I said, if the 6146 screen voltage is 0VDC then the screens will be negative in respects to the cathode which would prevent any electrons from flowing up to and past the screens to the plate, hence no current flow in the final tubes.

When Christopher is measuring/check the -C supply, you don't want any current to flow in the final tube if, in fact, the -C supply has failed so that's why I told Christopher to put the SG switch in the OFF position.

73
Mike W5RKL

On 3/15/2014 12:07 PM, Jan Servaites wrote:
>
> Mike,
> I'll check this out with my scope, but I think the screen on/off
> switch, applies some -C (through a 100k resistor) in the off position
> (check out the schematic to verify this for me). So I would think the
> screen has a very high negative potential in off position?
> Jan N8CBX
>
> Mike W5RKL wrote:
>
>> You should keep the SG switch in the OFF position, this will result
>> in "0VDC" applied to the final tube screens which will prevent
>> electron flow in the final tubes. With 0VDC on the final tube
>> screens, the final tube screens will appear "negative" in respect to
>> the cathode which will "repel" electrons that flow towards the screen
>> and plate, back to the cathode, hence preventing electron flow in the
>> final tubes.
>>
>> Mike W5RKL
>>

>>
>

48193. Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-15 18:40:28 UTC
From: <wagstw46@...>
Topic: 47979 Message: 48193

Pin 5 is not adjacent to the locator tab.

Pin 1 and 8 will be on each side of locator tab. Pin 5 will be at approx 1100 viewed from the bottom. Octal socket numbering convention is to view socket from the bottom and count in CCW direction from the tab from 1 to 8. On most phenolic sockets the numbers are embossed on them at each pin location. Also easy to see Pin 5 as it has the parastic suppressors.

Easy to get turned around if viewing from the top.

Terry K9TW

48194. Now What? Meter pegs at turn on

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-15 21:33:20 UTC
From: <junkmailsux@...>
Topic: 48194 Message: 48194

I came out to test the recommended procedures. I turned on the power and the meter pegged. It only dropped a little bit. It was unplugged overnight and no one messed with the radio. Any ideas??

Chad
KK6DPE

48195. Re: Now What? Meter pegs at turn on

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-16 00:02:05 UTC
From: <wagstw46@...>
Topic: 48194 Message: 48195

Is the Send/Receive switch in Receive? Is the Heater switch OFF?

For now until you get this radio working in Receive mode I would make sure before you turn the Power switch on that these two switches are in the above noted positions. In this way rig wont be keyed and wont have finals run away on power on.

If the rig is in Receive mode and you are saying that the S meter pegged full scale when you powered on and is not coming back down to zero and it is remaining at or near full scale deflection it sounds like the AGC bus that it monitors is not powered or is very low. Could be dirty RL-1 aux relay contact.

Terry K9TW

48196. Re: Now What? Meter pegs at turn on

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-16 00:28:30 UTC
From: <junkmailsux@...>
Topic: 48194 Message: 48196

The send/rec was on rec and the heater was off. Where is RL-1?? I found a relay one the schematic next to the meter but it's RL-2-2. The only relays we can find are the antenna relay and the VOX relay.

I'm seriously thinking of loading the 9MM!!!!! :P

Chad
KK6DPE

48197. Re: Now What? Meter pegs at turn on

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-16 00:49:34 UTC
From: <junkmailsux@...>
Topic: 48194 Message: 48197

We pulled the antenna relay and and the two larger connectors are only getting 0.024 volts with the radio on. I'm guessing that means there's no power to the relay. Am I correct or does something else (the SEND switch) trigger that relay?

I'm not touching the SEND switch until I figure out what's up with the meter maxed out.

Another thing we found is two pots on the FIX board are broken. Again, am I correct in thinking that that's a separate issue?

I can't tell you how much I appreciate ALL of your help!!!

Chad
KK6DPE

48198. Re: Now What? Meter pegs at turn on

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-16 12:31:20 UTC
From: <wagstw46@...>
Topic: 48194 Message: 48198

There is no such thing as a VOX relay.

The relay keying transistor is on the VOX board. The Aux or TR relay is on top the radio under the VOX board on the left rear of the rig.

This relay performs auxiliary functions like switching the cutoff and operating bias on the finals and the driver tube and receiver transmit and receive bias voltages and the AGC and ALC bus metering functions.

The Ant relay is on bottom side at end of bandswitch shaft under a metal shield cover. They are identical relays and get 12vdc operating voltage when the switching transistor on the VOX board makes the RL line hot.This is done by grounding the SS terminal with the mic PTT or the Send switch or with audio input to the VOX board in VOX mode.

Terry K9TW

48199. Re: Now What? Meter pegs at turn on

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-16 12:44:53 UTC
From: <wagstw46@...>
Topic: 48194 Message: 48199

There is no voltage to the ANT relay with rig turned on in receive mode.

You want the relay actuating coil de-energized as the receive signal is applied thru the NC (normally closed) contacts of the relay. The NO (Normally Open) contacts close when relay is keyed to allow transmit RF output power to be applied to the SO-239 connector and to your dummy load.

No disrepect to you friend but it appears he does not have the experience level that you need.

Look at the schematic. Look at the IF board. At lower left corner you will see the meter driver circuit. Just left of the meter FET Q7 and off the IF board you will see relay contacts drawn. RL1-1 is a NC contact of the Aux relay mounted under the Vox board. The AGC bus supply voltage from RF-1 is supplied by this contact to provide the control voltage for Q1 RF amp and the gate of the meter FET Q7 which monitors this voltage. If this NC contact is dirty then you will have no or low AGC bus voltage causing the S-meter to stay pegged.

You can also measure RF-1 at the AVR board to make sure it is close to 3.2 vdc and while there make sure you have regulated 9vdc. These are two key voltages for the receiver.

Terry K9TW

48200. Re: [TS-520_820_530_830] D-104 and Kenwood TS-520 - wiring (again)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-16 02:16:41 UTC
From: <lpleach@...>
Topic: 48031 Message: 48200

Ken -
This is getting really frustrating.
As I'm close to getting everything together, the switch assembly in the handle drops out. Looking in the handle, I don't see how the switch even stayed in place. There is nothing to hold it to the external switch.
It decided to try just hooking up the switch assembly directly to the pin 2 and 3 wires and the pin 1 and 4 wires directly to the mic, as shown in the manual. That doesn't work either. At least I don't think it does. When I hit the switch, I hear a tick in the rig like something is switching. That's a new sound. I still hear incoming sound. Speaking does nothing on the meter, which is still in receive mode.

Larry
KF5YZZ

48201. Re: [TS-520_820_530_830] A BIG Thank's

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-16 07:50:28 UTC
From: Thomas Bewick
Topic: 48154 Message: 48201

Dale, Glad you got it and it worked out for you, I was not too sure about
my tracing ability.
Your very welcome,
Tom K2BEW

On Thu, Mar 13, 2014 at 7:59 PM, <n0dks1@...> wrote:

>
>
>
> I would like to Thank everyone for there help. I was able to get my
> TS- 520 back on the air.
> I would like to give a special Thanks to Tom Bewick K2BEW for the side
> plate on the radio,
> it worked perfectly Thanks again for all of your help. I have the radio
> on the air and I'm getting
> good reports on it.
>
> Dave n0dks
>
>

48202. Re: [TS-520_820_530_830] Off-Topic: oportunity for fun and education

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-16 07:55:54 UTC
From: Thomas Bewick
Topic: 48147 Message: 48202

There are also wild rumors that Heathkit is again...for the second
time...maybe....going to start producing kits again. go to the
heathkit.comsite and there is a survey and a link to an interview
someone that works
there did recently. It would be nice, but I will believe it when I see it.

Tom. K2BEW

On Thu, Mar 13, 2014 at 4:00 PM, <scoutermike@...> wrote:

>
>
> Hello to All & I hope this finds you well,
>
> I don't know if this has been reported here or not but with such a lot of
> new members logging in lately I thought this might be of interest. I've
> seen a lot of commentary bemoaning the fact that there is no real active
> community of kits & kit builders/developers today accompanied by a lot of
> new folks who want to learn. There is a thriving community of such folk
> out there. One vendor is somewhat altruistically sponsoring a gathering
> point for doing this(they do after all hope to sell you the parts). I
> refer to Jameco Electronics who sponsors the Club-Jameco website. They
> co-ordinate and offer ideas, briefs, and actual, honest-to-God kits on the
> site. In example; Here is one of the projects from today's bulletin: a
> resistive decade load.
> "You can use this 5W box as a high-power load for testing a circuit's
> ability to drive resistive loads or as a variable resistor for circuit
> creation. It has a 1% accuracy from 0.1 ohm to 999.9 ohms, and can be set
> to any resistance in 0.1 ohm steps." Sounds very much like something
> Terry might recommend for a workbench.
> I've got no horse in this race and no connection to Jameco other rhan as a
> satisfied small parts customer. I just thought I'd pass along the
> opportunity to give it a look-see. A greater Amateur presence in their
> community might bring a greater presence of these foks in ours. Everybody
> wins. Here's a link for your consideration.
> http://www.clubjameco.com/index.php/contents
> If you sign-up (join the club) you'll get occasional bulletins describing
> projects, contests, & interesting stuff. I hope this helps someone.
> Vy 73,
> Mike
> K8SYN
> P.S.
> I believe Radio Shack is also entering in to this concept. I haven't
> checked them out so I can't offer comment on the effort.
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48203. Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-16 05:30:56 UTC
From: <christopherlarwood@...>
Topic: 47979 Message: 48203

I have now tested PIN 5 DC Voltage as per Mike's suggestion. Note my old meter won't measure negative values so I had to switch probes around- and start looking at buying a modern meter!

SG switch turned to OFF position and 1 tube removed to perform test . access the socket
The DC voltage in RX could be adjusted using the bias pot on the side panel but it was right about 100 VDC before I touched anything. When I went to SB TX it sat about 68 VDC so appears to be right where it should be.
After replacing the tube and SG switch to on I tested TX and as before, with meter in IP, the needle pegs to the right and adjusting the bias pot made no difference at all.
Here is a clip made of the test
https://www.youtube.com/watch?v=LzdMNtUC-hk&feature=youtu.be
https://www.youtube.com/watch?v=LzdMNtUC-hk&feature=youtu.be
Firstly- have I done the test correctly? Secondly if so , what should be looked at next?
Thanks for the help so far
VK5LTD
Christopher

48204. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-16 13:49:13 UTC
From: Mike W5RKL
Topic: 47979 Message: 48204

Christopher,

You initially said you measured the bias voltage at pin 5 of the 6146 tube sockets with both 6146 tubes in their sockets and the bias voltage at pin 5 measured 0VDC.

You then said you removed one of the 6146s and measured pin 5 from the top of the empty 6146 tube socket and the grid voltage on pin 5 was -100VDC in receive then dropping to -65VDC with the transmitter keyed and the bias voltage varied when you adjusted the bias pot. That's a good sign.

You then said you put the 6146 back into the socket, set the meter switch to IP, and keyed the transmitter which resulted in the IP meter pegged fully to the right. That is NOT a good sign!

If this is right, I question the 6146 tubes in your 520, one may have a short in the tube which is causing the tube to conduct fully, pegging the IP meter fully to the right.

If you have a pair of know good 6146s, remove the 6146 tubes in your 520 and put the 2 known good 6146s and repeat the test to see if the IP meter pegs.

As Terry said, pin 5 on the 520 final amp PC board has the parasitic suppressors connected to them. A parasitic suppressor is a resistor with wire wrapped around the resistor. There is one parasitic suppressor connected to each pin 5. I should have told you that in the beginning but now you know so measure the grid voltage at the PC board connection of either one of the pin 5 grid parasitic suppressors, it doesn't matter which one the grids are wired in "parallel" and they both will have the same bias voltage.

73
Mike W5RKL

On 3/16/2014 12:30 AM, christopherlarwood@... wrote:
>
> I have now tested PIN 5 DC Voltage as per Mike's suggestion. Note my
> old meter won't measure negative values so I had to switch probes
> around- and start looking at buying a modern meter!
>
> SG switch turned to OFF position and 1 tube removed to perform test .
> access the socket
>
> The DC voltage in RX could be adjusted using the bias pot on the side
> panel but it was right about 100 VDC before I touched anything.

> When I went to SB TX it sat about 68 VDC so appears to be right where
> it should be.
>
> After replacing the tube and SG switch to on I tested TX and as
> before, with meter in IP, the needle pegs to the right and adjusting
> the bias pot made no difference at all.
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> Here is a clip made of the test
>
> https://www.youtube.com/watch?v=LzdMNtUC-hk&feature=youtu.be
>
> Firstly- have I done the test correctly? Secondly if so , what should
> be looked at next?
>
> Thanks for the help so far
>
> VK5LTD
>
> Christopher
>
>

48205. Re: [TS-520_820_530_830] Off-Topic: oportunity for fun and education

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-16 13:53:51 UTC
From: Mike W5RKL
Topic: 48147 Message: 48205

Tom and others,

This has been a topic of discussion at great lengths many many times in the past.

If you and other member want to discuss whether Heathkit will rise again or not, take the discussion off group through private email.

Thank you and 73
Mike W5RKL
Moderator

On 3/16/2014 2:55 AM, Thomas Bewick wrote:
> There are also wild rumors that Heathkit is again...for the second
> time...maybe....going to start producing kits again. go to the
> heathkit.com <http://heathkit.com> site and there is a survey and
> a link to an interview someone that works there did recently. It
> would be nice, but I will believe it when I see it.
> Tom. K2BEW
>
>
> On Thu, Mar 13, 2014 at 4:00 PM, <scoutermike@...
> <mailto:scoutermike@...>> wrote:
>
> Hello to All & I hope this finds you well,
>
> I don't know if this has been reported here or not but with such a
> lot of new members logging in lately I thought this might be of
> interest. I've seen a lot of commentary bemoaning the fact that
> there is no real active community of kits & kit
> builders/developers today accompanied by a lot of new folks who
> want to learn. There is a thriving community of such folk out
> there. One vendor is somewhat altruistically sponsoring a
> gathering point for doing this(they do after all hope to sell you
> the parts). I refer to Jameco Electronics who sponsors the
> Club-Jameco website. They co-ordinate and offer ideas, briefs,
> and actual, honest-to-God kits on the site. In example; Here is
> one of the projects from today's bulletin:a resistive decade load.
> "You can use this 5W box as a high-power load for testing a
> circuit's ability to drive resistive loads or as a variable
> resistor for circuit creation. It has a 1% accuracy from 0.1 ohm
> to 999.9 ohms, and can be set to any resistance in 0.1 ohm steps."
> Sounds very much like something Terry might recommend for a
> workbench.
> I've got no horse in this race and no connection to Jameco other
> rhan as a satisfied small parts customer. I just thought I'd pass

> along the opportunity to give it a look-see. A greater Amateur
> presence in their community might bring a greater presence of
> these foks in ours. Everybody wins. Here's a link for your
> consideration.
> http://www.clubjameco.com/index.php/contents
> If you sign-up (join the club) you'll get occasional bulletins
> describing projects, contests, & interesting stuff. I hope this
> helps someone.
> Vy 73,
> Mike
> K8SYN
> P.S.
> I believe Radio Shack is also entering in to this concept. I
> haven't checked them out so I can't offer comment on the effort.
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48206. Re: [TS-520_820_530_830] D-104 and Kenwood TS-520 - wiring (again)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-16 14:20:38 UTC
From: Ken Winterling
Topic: 48031 Message: 48206

Larry,

I would have to take a G stand apart to help you with the assembly details since I can't recall that from memory. Hopefully somebody here will be able to help with that. I will not be able to do it today.

As for the mic wiring, lets test the PTT circuit in the rig first to eliminate it a contributing problem. IIRC, when viewing the 4 pin mic jack on the rig's front panel the index "bump" is at the 6 o'clock position. That roughly puts pin 1 at 5 o'clock, pin 4 at 7 o'clock, pin 3 at 11 o'clock, and pin 2 at 2 o'clock.

OK, turn on the rig in receive mode. If you can hear stations that is OK but if not just turn up the volume a bit so you hear noise from the speaker. I'm working on a number of issues so I don't recall if you said you have another mic that works on the rig. If you have a known-good mic then plug it in and press the PTT switch. If the rig switches to transmit mode and you do not hear stations or noise then the PTT circuit is working. If this does not work or you do not have a good mic then proceed with the test below.

Take a jumper clip test lead and connect one end to chassis ground. You can clip it to the threaded ring on the mic jack but be sure it isn't shorting to any pins. Next, touch the free end of the jumper lead to pin 2 (2 o'clock) (PTT) and the rig should go into transmit mode and you should not hear stations or noise. Does that test work as expected? If that does not work then you have to investigate the PTT circuit.

Please report your findings.

On Saturday, March 15, 2014, <lpleach@...> wrote:

>
>
> Ken -
> This is getting really frustrating.
>
>
> As I'm close to getting everything together, the switch assembly in the
> handle drops out.
> Looking in the handle, I don't see how the switch even stayed in place.
> There is nothing to hold it to the external switch.
>
>
> It decided to try just hooking up the switch assembly directly to the pin
> 2 and 3 wires and the pin 1 and 4 wires directly to the mic, as shown in
> the manual. That doesn't work either. At least I don't think it does. When

> I hit the switch, I hear a tick in the rig like something is switching.
> That's a new sound. I still hear incoming sound. Speaking does nothing on
> the meter, which is still in receive mode.
>
> Larry
> KF5YZZ
>
>

--

Ken
WA2LBI
Sent from iPad Gmail Mobile

48207. Re: [TS-520_820_530_830] Off-Topic: oportunity for fun and education

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-16 14:28:08 UTC
From: Mark Gilger
Topic: 48147 Message: 48207

Old news. By now I think everyone has taken the
survey. If not, be prepared to spend 20-30 minutes doing it.

Mark, WB0IQK

At 03:55 AM 3/16/2014, Thomas Bewick wrote:
>
>
>There are also wild rumors that Heathkit is
>again...for the second time...maybe....going to
>start producing kits again. go to the
><http://heathkit.com>heathkit.com site and there
>is a survey and a link to an interview someone
>that works there did recently. It would be nice,
>but I will believe it when I see it.
>
>Tom. K2BEW
>
>
>On Thu, Mar 13, 2014 at 4:00 PM,
><<mailto:scoutermike@...>scoutermike@sbcglobal.net> wrote:
>
>
>Hello to All & I hope this finds you well,
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>I don't know if this has been reported here or
>not but with such a lot of new members logging
>in lately I thought this might be of
>interest. I've seen a lot of commentary
>bemoaning the fact that there is no real active
>community of kits & kit builders/developers
>today accompanied by a lot of new folks who want
>to learn. There is a thriving community of such
>folk out there. One vendor is somewhat
>altruistically sponsoring a gathering point for
>doing this(they do after all hope to sell you
>the parts). I refer to Jameco Electronics who
>sponsors the Club-Jameco website. They
>co-ordinate and offer ideas, briefs, and actual,
>honest-to-God kits on the site. In example;
>Here is one of the projects from today's bulletin: a resistive decade load.
>"You can use this 5W box as a high-power load
>for testing a circuit□s ability to drive
>resistive loads or as a variable resistor for

>circuit creation. It has a 1% accuracy from 0.1
>ohm to 999.9 ohms, and can be set to any
>resistance in 0.1 ohm steps." Sounds very much
>like something Terry might recommend for a workbench.
>I've got no horse in this race and no connection
>to Jameco other rhan as a satisfied small parts
>customer. I just thought I'd pass along the
>opportunity to give it a look-see. A greater
>Amateur presence in their community might bring
>a greater presence of these foks in
>ours. Everybody wins. Here's a link for your consideration.
><http://www.clubjameco.com/index.php/contents>http://www.clubjameco.com/index.php/contents
>
>If you sign-up (join the club) you'll get
>occasional bulletins describing projects,
>contests, & interesting stuff. I hope this helps someone.
>Vy 73,
>Mike
>K8SYN
>P.S.
>I believe Radio Shack is also entering in to
>this concept. I haven't checked them out so I
>can't offer comment on the effort.
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48208. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-16 17:44:18 UTC
From: <wagstw46@...>
Topic: 47979 Message: 48208

Mike

Didnt want to step on your thread. I needed break from the bench and I thought I read that he was trying to measure cutoff and operating bias at Pins 1 and 8 either side of the locator key and didnt see anyone pick up on that so thought I better say something to him about octal tube socket numbering convention.

Sad when you take a break from working on KW hybrids to reading about troubleshooting them!

Terry K9TW

48209. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-16 18:02:29 UTC
From: Mike W5RKL
Topic: 47979 Message: 48209

No problem Terry, that's why my response was formed somewhat into a question and a comment about what he Christopher was saying.

Pin 5, the grid #1, on the Final Unit 6146 tube socket is not difficult to find. As you said, and I agree, on each 6146 tube socket has the grid #1 parasitic suppressors connected to pin 5. Simply locate them on the bottom of the chassis either connected to the 6146 Final Unit 8 pin octal sockets mounted to the chassis or on the 6146 Final Unit PC board.

Mike W5RKL

On 3/16/2014 12:44 PM, wagstw46@... wrote:
>
> Mike
>
>
> Didnt want to step on your thread. I needed break from the bench and I
> thought I read that he was trying to measure cutoff and operating bias
> at Pins 1 and 8 either side of the locator key and didnt see anyone
> pick up on that so thought I better say something to him about octal
> tube socket numbering convention.
>
> Sad when you take a break from working on KW hybrids to reading about
> troubleshooting them!
>
> Terry K9TW
>

48210. RE: TS830: Delayed receive recovery after transmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-16 18:19:37 UTC
From: <alan_wolf69@...>
Topic: 48043 Message: 48210

Terry
I was away for the week, but finally got back to my TS830 delayed receive sensitivity problem. After confirming that the problem had not magically gone away in my absence, I started making the voltage measurements as you suggested. The voltage recovery and the receive recovery were very quick. Apparently, wiggling the wires on connectors 3 and 8 (as you included in your suggestion) resolved the problem. ...at least for now. If the problem returns, at least I know where to look. Maybe I would be working better if my wires were wiggled at the 30+ year mark. Thanks again. Al Wolf, K2QU.

48211. Re: Now What? Meter pegs at turn on

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-16 15:40:20 UTC
From: <junkmailsux@...>
Topic: 48194 Message: 48211

As for the VOX relay, I was just going by the service manual. Page 7 FIG 68. "Replacing the VOX relay". I'll pull that relay today and swap the two and see if that changes anything.

As for my friend, I know, but he's all I've got and he knows more than I do. :(

I hate it when things break/die just sitting overnight. LOL I'll get out there later this morning when it warms up a bit. I'll let ya know how it goes.

Does anyone out there need a website? If I can't get this going soon, I may need someone that will trade me the work for a website. I have NO money but I can barter with that. :/

Chad
KK6DPE

48212. Re: Now What? Meter pegs at turn on

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-16 18:41:40 UTC
From: <wagstw46@...>
Topic: 48194 Message: 48212

Ok Chad I stand corrected. I see now why you called it the "VOX" relay. I can tell you among hybrid owners and hybrid service folks it would not commonly be called by that name.

Lots of things in the various Service Manuals that are not technically correct and some grossly wrong. I am very happy that you are trying to use the manual.

Not uncommon for these radios to exhibit intermittent conditions both transmit and receive. In the case of the TS520 you do not have molex connectors for the board interconnects but you do have relay contacts and switches and pots that can all exhibit intermittent conditions. Sometimes a good contact and sometimes not.

Relay swap is OK. Can also clean by wetting some printer paper strips with Deoxit or favorite contact cleaner and pulling thru the contacts (both the NO and NC contacts) and applying light pressure to the armature (movable piece). Should see black streaks appear on the paper. Dont attempt to bend the contacts or adjust them in any manner.

If relay swap or cleaning contacts doesnt help then measure RF-1 and 9vdc regulated at AVR board.

Terry K9TW

48213. RE: TS830: Delayed receive recovery after transmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-16 19:10:42 UTC
From: <wagstw46@...>
Topic: 48043 Message: 48213

Alan:

You can carefully remove the molex plugs and can apply small amount of Deoxit with tip of a pointed tooth pick.

If the plug and connector body move any amount side to side likely the soldering at the pin pad is the issue. Dont typically see this too much on the RF boards.

The IF board is typically the place that this is manifested the most because this board is pulled frequently to remove and sell filters or change filters. Frequent pulling of the molex connectors and applying side force to the connector body rocking it side to side as you pull upwards can break the solder and worse case can crack the pc pad trace. Soldering on these pins can be poor. Sometimes will find a complete 360 degree crack around the solder filet 'weld" with the pin floating.

If problem returns you may be in to pulling the RF board and inspecting all the molex pins under magnification.

Thanks for letting us know the status.

Terry K9TW

48214. Re: Now What? Meter pegs at turn on

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-16 18:48:38 UTC
From: <junkmailsux@...>
Topic: 48194 Message: 48214

Thanks again, Terry! I'm hoping to get out there in an hour or so. Just need this Vicodin to kick in!!!

48215. Finished the DDS VFO on the 530

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-16 22:16:50 UTC
From: <cocobean64@...>
Topic: 48215 Message: 48215

Hello Everyone,

I've finished the DDS VFO with the TS-530. Posted some pictures on the site here, look for the "DDS VFO 530 finished" album.
Requirements of the project:
- I did not want to cut any wires, or drill any holes in the transceiver if possible.....done.
- The DDS VFO should interface with NaP3 via USB connection to a pc.....done.
- The DDS VFO to have, split, rit, xit, A to B to A transfer....done
- The DDS VFO to retain VFO-A and B frequencies and Rit/Xit settings upon power down.....done.
- The connection from the Transceiver to the DDS VFO should be simple.....done.

- The case to be similar in size (height) to the transceiver.....done. (needs paint?)

Connections between transceiver and DDS VFO:
- One 1/8 stereo audio cable runs between the DDS VFO and the transceiver, nothing else.
- One USB cable from the DDS VFO to the PC.
- One 12V wall wart to power the DDS VFO.
- Once RCA jack on the back of the transceiver for the IF out connection to the LP-Pan 2 (in an existing hole!)

Costs:
Parts were primarily sourced from flea-bay, and some from mouser. When I add it all up, this "first-off" is just shy of $400 in parts only. Compared to "used 230 or 240" vfo's this is high, but then this DDS VFO has more capabilities.

Summary:
This does require you to get into the transceiver and "pick-up" signals for band position, mode, and some others in order to get it all to play nice.
Some may not want to go this route as they like to keep the transceiver "all original".

Going forward:
Time to play with this for a while, but I'm already "thinking" of adding "memory buttons" and a keypad for "direct frequency entry". We'll have to see how this goes.

Comments or suggestions are welcome, send them to cocobean64@gmail.com.

73
Bart
KB8BAB

48216. Re: Now What? Meter pegs at turn on

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-16 22:49:27 UTC
From: <mike.allan@...>
Topic: 48194 Message: 48216

This may sound really silly, but have you checked the RF gain control is fully clockwise?. When I first got my TS520S in 1979, I read the manual and went thru the steps in the Getting started section and misread the setting of the rf gain control and had it set fully CCW. on turn on the s meter went full scale. It took me about 3 attempts before I figured it out.

48217. Re: Now What? Meter pegs at turn on

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-16 23:23:05 UTC
From: <wagstw46@...>
Topic: 48194 Message: 48217

Very good suggestion. Simplest first. I failed to think of that as getting too familiar with how to operate these radios. Never would think anyone would ever set the RF gain full CCW. Even if you operate with the AGC off and ride the RF gain pot (which is a perfectly acceptable way to copy) cant imagine why you would put it at full CCW and leave it there? Lets hope you are correct.

Terry K9TW

48218. Re: [TS-520_820_530_830] Finished the DDS VFO on the 530

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-16 23:37:37 UTC
From: Lou Blasco
Topic: 48215 Message: 48218

Hi Bart,

Excellent job. I see you've thought quite a lot
about how the VFO will integrate into a working
system. The use of two micros makes a lot of
sense. It also looks like you could build the
unit inside a surplus VFO cabinet.

Have you listened for birdies etc due to the
integration of the Arduino board inside the
radio. Also, how clean is the VFO signal compared
to the internal VFO? It's probably difficult to
do phase noise measurements but can you listen to
the close in noise of a carrier using the
internal VFO and compare it to the external VFO?
Alternately, can you listen to a dog pile and
switch between internal and external VFO?

Regards

Lou
VK3ALB

At 09:16 17/03/2014, you wrote:
>
>
>Hello Everyone,
>
>I've finished the DDS VFO with the TS-530.
>Posted some pictures on the site here, look for
>the "DDS VFO 530 finished" album.
>Requirements of the project:
>- I did not want to cut any wires, or drill any
>holes in the transceiver if possible.....done.
>- The DDS VFO should interface with NaP3 via USB
>connection to a pc.....done.
>- The DDS VFO to have, split, rit, xit, A to B to A transfer....done
>- The DDS VFO to retain VFO-A and B frequencies
>and Rit/Xit settings upon power down.....done.
>- The connection from the Transceiver to the DDS
>VFO should be simple.....done.
>- The case to be similar in size (height) to the
>transceiver.....done. (needs paint?)
>
>Connections between transceiver and DDS VFO:
>- One 1/8 stereo audio cable runs between the

>DDS VFO and the transceiver, nothing else.
>- One USB cable from the DDS VFO to the PC.
>- One 12V wall wart to power the DDS VFO.
>- Once RCA jack on the back of the transceiver
>for the IF out connection to the LP-Pan 2 (in an existing hole!)
>
>Costs:
> Parts were primarily sourced from flea-bay,
> and some from mouser. When I add it all up,
> this "first-off" is just shy of $400 in parts
> only. Compared to "used 230 or 240" vfo's this
> is high, but then this DDS VFO has more capabilities.
>
>Summary:
>This does require you to get into the
>transceiver and "pick-up" signals for band
>position, mode, and some others in order to get it all to play nice.
>Some may not want to go this route as they like
>to keep the transceiver "all original".
>
>G oing forward:
>Time to play with this for a while, but I'm
>already "thinking" of adding "memory buttons"
>and a keypad for "direct frequency entry". We'll have to see how this goes.
>
>Comments or suggestions are welcome, send them to cocobean64@...m.
>
>
>73
>Bart
>KB8BAB
>
>
>
>

48219. Re: [TS-520_820_530_830] Finished the DDS VFO on the 530

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-17 00:06:26 UTC
From: <cocobean64@...>
Topic: 48215 Message: 48219

Lou,

I cannot hear any birdies, but then my hearing is probably not the greatest either.
A phase noise measurement I cannot make, don't have the equipment for that. I did look at the DDS signal vs the analog and other then amplitude (dds slightly higher), the signal looks clean.
The AD9850 I'm using is "good" to 40Mhz so is claimed, although its also stated that there will be distortion at that level. I'm only going from ~5 to 6 Mhz (mimicking the analog range).
I can switching between internal and external vfo, is done automatically. If the internal (in the radio) Arduino senses a loss of communication from the main unit, it defaults back automatically to the analog vfo.

I've been playing on the air with it for a bit. The receiving ops are not reporting anything but clean audio and spot-on frequency.

Question, how do I listen to the "close in noise" of the carrier?

Here's a link to the final video.....
73
Bart

http://youtu.be/kgH2ktMiXr0 http://youtu.be/kgH2ktMiXr0

48220. RE: TS830: Delayed receive recovery after transmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-17 00:53:29 UTC
From: <alan_wolf69@...>
Topic: 48043 Message: 48220

Terry
Thanks for the instructions. I won't fix anything till it really breaks - but again, you have given me the path forward when I need it. Except for a few electrolytics, relays, and cathode resistors, the primary issues I have had with the 830s are "mechanical" (loose connections, oxidation, loose grounds, broken traces, etc.). DeOxit, rubbing alcohol, canned air, and cleaning swabs (small brush) are the primary tools! Al Wolf, K2QU

48221. Re: [TS-520_820_530_830] Finished the DDS VFO on the 530

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-17 01:17:34 UTC
From: Lou Blasco
Topic: 48215 Message: 48221

Hi Bart,

First of all, to anyone that is reading I am NOT talking down the VFO.

This is a really excellent project and from what
I can hear and see from the videos anyone would
be proud to own one. My experience with digital
synthesis is that it is different from a signal
derived by traditional analog means. You can
always measure that difference with the right gear and the right tests.

To me, it's more important to LISTEN to the
signals and if it sounds ok then the numbers don't matter.

It's a good sign that you can't hear any birdies.
The phase noise measurements are difficult and in
the HF band probably more so especially when you
have an antenna connected. The phase noise from
AD9850 should be pretty low anyway and is quoted
at -134dBc @ 1kHz for a 5MHz signal - an
excellent figure. If you listen in close (less
than 1kHz) to a clean carrier you might hear all
kinds of swishes and little carriers from a
synthesised VFO. Depending on the signal
generation you might hear these signals all the
way out (some kHz) from your desired signal.
These come from digital noise produced by the signal synthesis process.

Also, depending on the cleanliness (maybe I
should say dirtyness?) of the synthesised signals
you might hear mixing products from strong
signals that are inside the RX filter passband.
That's why I asked you to listen to a pile up -
there's always a couple of really strong signals
in there that might make listening difficult.
What you would hear is an increase in noise
around the signals you are listening to. If you
switch between internal and external VFO and
can't hear the difference then the test is
completed. You "might" hear some increase in
noise but if it's not objectionable and you don't
think small signals are being obscured then there's nothing to worry about.

So the point of the test is to listen "around"
your desired signal especially in the presence of
strong nearby signals and check for unwanted

mixing products due to phase noise. It is very
rare that you would hear poor signals when you are on frequency.

It's a great project Bart, I'd be interested to read more about it.

Regards

Lou
VK3ALB

At 11:06 17/03/2014, you wrote:
>
>
>
>Lou,
>
>I cannot hear any birdies, but then my hearing
>is probably not the greatest either.
>A phase noise measurement I cannot make, don't
>have the equipment for that. I did look at the
>DDS signal vs the analog and other then
>amplitude (dds slightly higher), the signal looks clean.
>The AD9850 I'm using is "good" to 40Mhz so is
>claimed, although its also stated that there
>will be distortion at that level. I'm only going
>from ~5 to 6 Mhz (mimicking the analog range).
>I can switching between internal and external
>vfo, is done automatically. If the internal (in
>the radio) Arduino senses a loss of
>communication from the main unit, it defaults
>back automatically to the analog vfo.
>
>I've been playing on the air with it for a bit.
>The receiving ops are not reporting anything but
>clean audio and spot-on frequency.
>
>Question, how do I listen to the "close in noise" of the carrier?
>
>Here's a link to the final video.....
>73
>Bart
>
><http://youtu.be/kgH2ktMiXr0>http://youtu.be/kgH2ktMiXr0
>

48222. Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-16 22:39:25 UTC
From: <christopherlarwood@...>
Topic: 47979 Message: 48222

You initially said you measured the bias voltage at pin 5 of the 6146 tube sockets with both 6146 tubes in their sockets and the bias voltage at pin 5 measured 0VDC.
I was not measuring the right pin and I didn't realise the figure given was a negative value! I took the minus sign as a hyphen! It took considerable time to find a pin /socket diagram showing top & bottom views. I did learn my multimeter wont show negative values unless I reverse the probes.
You then said you removed one of the 6146s and measured pin 5 from the top of the empty 6146 tube socket and the grid voltage on pin 5 was -100VDC in receive then dropping to -65VDC with the transmitter keyed and the bias voltage varied when you adjusted the bias pot. That's a good sign.
This is what I showed in the video clip - I believe I was doing the measurement correctly?
You then said you put the 6146 back into the socket, set the meter switch to IP, and keyed the transmitter which resulted in the IP meter pegged fully to the right. That is NOT a good sign!
That is correct. SG switch put to on position and tested. No change from initial fault description

If this is right, I question the 6146 tubes in your 520, one may have a short in the tube which is causing the tube to conduct fully, pegging the IP meter fully to the right.
If you have a pair of know good 6146s, remove the 6146 tubes in your 520 and put the 2 known good 6146s and repeat the test to see if the IP meter pegs.
I do have some spare tubes I can put in to test - Do I have to neutralise these for the test?? I don't want to damage the spares I have.

As Terry said, pin 5 on the 520 final amp PC board has the parasitic suppressors connected to them. A parasitic suppressor is a resistor with wire wrapped around the resistor. There is one parasitic suppressor connected to each pin 5. I should have told you that in the beginning but now you know so measure the grid voltage at the PC board connection of either one of the pin 5 grid parasitic suppressors, it doesn't matter which one the grids are wired in "parallel" and they both will have the same bias voltage.
I had no idea what a parasitic suppressor was so more knowledge gained. I can see two brown wire wrapped resistors on the board directly under the tubes. They are right near the top edge of the board . Just confirm these are what I'm supposed to measure?? I am getting no reading at all? No needle movement. Does this mean the test I did in the socket was not done correctly?
Thanks again for the responses!

48223. Re: Now What? Meter pegs at turn on

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-16 22:39:35 UTC
From: <junkmailsux@...>
Topic: 48194 Message: 48223

The cleaning and swap didn't help. No change at all. SHOOT ME NOW!!!

This might be a dumb question but where/what is the AVR board? I don't see it on any schematic.

On an unrelated note, on the FIX board I found 2 VR's that are broken. VR2 and VR3. Those don't have anything to do with anything outside the FIX board, do they? They can't be causing these issues, can they??

Chad
KK6DPE

48224. Re: Now What? Meter pegs at turn on

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-16 23:37:30 UTC
From: <junkmailsux@...>
Topic: 48194 Message: 48224

Yes. I've checked the RF gain. No such luck.

Chad
KK6DPE

48225. Re: Now What? Meter pegs at turn on

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-17 10:12:44 UTC
From: <wagstw46@...>
Topic: 48194 Message: 48225

The Fix Channel Board is the AVR board.

It is most commonly called the AVR board as that is the most important function that the board performs. It contains a Linear Series Pass Regulator that provides those two key voltages I previously mentioned and the -6vdc dc to dc converter. The Fixed channel function is not a critical function so people dont call the board the Fix Ch Board.

As I mentioned if cleaning relay contacts dont help then measure RF-1. Measure it at the IF board on the COM wire wrap post and on the AVR board. If VR-3 is broken then may have no RF-1 output from the AVR board. VR-2 is used to set the RIT balance so when you turn RIT on with pot centered there is no shift in frequency.

You need to start trying to read the schematic. Look at the AVR board and you will see that VR-3 taps off the 9vdc output of Q4 pass transistor and is used to drop the 9vdc to 3.3vdc to supply the AGC and ALC busses.

You can try Bob Mansker for a replacement AVR board.

I need to get back to the bench and finish customers rigs so will step away and let others help you. Have fun and be careful.

Terry K9TW

48226. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-17 10:50:11 UTC
From: Mike W5RKL
Topic: 47979 Message: 48226

Christopher,

You don't seem to understand how voltages are written in a text document. DC (Direct Current) voltages have both positive (+) and negative (-) polarities. How the DC voltage is written depends on what polarity the DC voltage is. A "Negative DC voltage", such as negative 120VDC is written "-120VDC", note the "hyphen" to the left of the number. The same voltage written as a positive voltage is written as "+120VDC", note the "Plus" sign written to the left of the number. You need to learn this because you will see this on schematics and in written text and if you don't understand it then you will make the same mistake as you did before.

Are you using the TS-520S "Service Manual"? If not then you need to start using it. The TS-520S Final Unit PC board is shown on page 24 with the tube pin numbers shown.

73
Mike W5RKL

On 3/16/2014 5:39 PM, christopherlarwood@... wrote:
>
> *You initially said you measured the bias voltage at pin 5 of the 6146
> tube sockets with both 6146 tubes in their sockets and the bias
> voltage at pin 5 measured 0VDC.*
>
> I was not measuring the right pin and I didn't realise the figure
> given was a negative value! I took the minus sign as a hyphen! It took
> considerable time to find a pin /socket diagram showing top & bottom
> views. I did learn my multimeter wont show negative values unless I
> reverse the probes.*
> You then said you removed one of the 6146s and measured pin 5 from the
> top of the empty 6146 tube socket and the grid voltage on pin 5 was
> -100VDC in receive then dropping to -65VDC with the transmitter keyed
> and the bias voltage varied when you adjusted the bias pot. That's a
> good sign.*
>
> This is what I showed in the video clip - I believe I was doing the
> measurement correctly?
> You then said you put the 6146 back into the socket, set the meter
> switch to IP, and keyed the transmitter which resulted in the IP meter
> pegged fully to the right. That is NOT a good sign!
>
> That is correct. SG switch put to on position and tested. No change
> from initial fault description
>

> If this is right, I question the 6146 tubes in your 520, one may have
> a short in the tube which is causing the tube to conduct fully,
> pegging the IP meter fully to the right.
> If you have a pair of know good 6146s, remove the 6146 tubes in your
> 520 and put the 2 known good 6146s and repeat the test to see if the
> IP meter pegs.
>
> I do have some spare tubes I can put in to test - Do I have to
> neutralise these for the test?? I don't want to damage the spares I have.
>
> As Terry said, pin 5 on the 520 final amp PC board has the parasitic
> suppressors connected to them. A parasitic suppressor is a resistor
> with wire wrapped around the resistor. There is one parasitic
> suppressor connected to each pin 5. I should have told you that in the
> beginning but now you know so measure the grid voltage at the PC board
> connection of either one of the pin 5 grid parasitic suppressors, it
> doesn't matter which one the grids are wired in "parallel" and they
> both will have the same bias voltage.
>
> I had no idea what a parasitic suppressor was so more knowledge
> gained. I can see two brown wire wrapped resistors on the board
> directly under the tubes. They are right near the top edge of the
> board . Just confirm these are what I'm supposed to measure?? I am
> getting no reading at all? No needle movement. Does this mean the
> test I did in the socket was not done correctly?
>
> Thanks again for the responses!
>
>
>
>

48227. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-17 12:50:24 UTC
From: Mike W5RKL
Topic: 47979 Message: 48227

Christopher,

The video clip clearly shows the bias supply, the Rectifier Unit's -C supply, is working properly so there is no need to work on the -C supply. The problem is more than likely a bad 6146, more than likely shorted internally.

Set the SG switch to ON, leave the front 6146 out of it's socket, set the meter switch to IP, and key the 520. Does the meter peg fully to the right? If it does NOT then the removed front 6146 is bad, more than likely shorted internally.

73
Mike W5RKL

On 3/16/2014 5:39 PM, christopherlarwood@... wrote:
>
> *You initially said you measured the bias voltage at pin 5 of the 6146
> tube sockets with both 6146 tubes in their sockets and the bias
> voltage at pin 5 measured 0VDC.*
>
> I was not measuring the right pin and I didn't realise the figure
> given was a negative value! I took the minus sign as a hyphen! It took
> considerable time to find a pin /socket diagram showing top & bottom
> views. I did learn my multimeter wont show negative values unless I
> reverse the probes.*
> You then said you removed one of the 6146s and measured pin 5 from the
> top of the empty 6146 tube socket and the grid voltage on pin 5 was
> -100VDC in receive then dropping to -65VDC with the transmitter keyed
> and the bias voltage varied when you adjusted the bias pot. That's a
> good sign.*
>
> This is what I showed in the video clip - I believe I was doing the
> measurement correctly?
> You then said you put the 6146 back into the socket, set the meter
> switch to IP, and keyed the transmitter which resulted in the IP meter
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>
> That is correct. SG switch put to on position and tested. No change
> from initial fault description
>
> If this is right, I question the 6146 tubes in your 520, one may have
> a short in the tube which is causing the tube to conduct fully,
> pegging the IP meter fully to the right.
> If you have a pair of know good 6146s, remove the 6146 tubes in your
> 520 and put the 2 known good 6146s and repeat the test to see if the

> IP meter pegs.
>
> I do have some spare tubes I can put in to test - Do I have to
> neutralise these for the test?? I don't want to damage the spares I have.
>
> As Terry said, pin 5 on the 520 final amp PC board has the parasitic
> suppressors connected to them. A parasitic suppressor is a resistor
> with wire wrapped around the resistor. There is one parasitic
> suppressor connected to each pin 5. I should have told you that in the
> beginning but now you know so measure the grid voltage at the PC board
> connection of either one of the pin 5 grid parasitic suppressors, it
> doesn't matter which one the grids are wired in "parallel" and they
> both will have the same bias voltage.
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> I had no idea what a parasitic suppressor was so more knowledge
> gained. I can see two brown wire wrapped resistors on the board
> directly under the tubes. They are right near the top edge of the
> board . Just confirm these are what I'm supposed to measure?? I am
> getting no reading at all? No needle movement. Does this mean the
> test I did in the socket was not done correctly?
>
> Thanks again for the responses!
>
>
>
>

48228. Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-17 12:51:52 UTC
From: <christopherlarwood@...>
Topic: 47979 Message: 48228

Yes, Mike, I realised this must be the case when my old analogue multi meter needle started going backwards when I reversed the probes I actually got the predicted voltages from socket pin 5 but another piece of knowledge I've picked up during this exercise.
I do have the service manual but it is largely a foreign language for me. PS1 & PS2 are the wire wound resistors which connect to Pin 5 - I couldnt get any voltage measurement from this board?
So if I have conducted the Pin 5 measurement correctly and readings are where they should be. Any suggestions as to next steps?
Trying some spare tubes was a possibility - but I gather from what I have read they should be neutralised - how is this done when you are trouble shooting a radio? Not keen to wreck spare tubes!
73
VK5LTD
Christopher

48229. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-17 13:07:04 UTC
From: Mike W5RKL
Topic: 47979 Message: 48229

Christopher,

You do not need to be concerned about final amplifier neutralizing at the moment. We are only concerned about the excessive DC current flowing through the final tubes (IP meter pegs fully to the right), so RF is not part of the problem, at least it doesn't appear to be. I suspect, based on the video test results you showed, one of the 6146 final tube has an internal short. That's why I suggested using a spare set of final tubes in place of the original tubes in your 520S.

73
Mike W5RKL

On 3/17/2014 7:51 AM, christopherlarwood@... wrote:
>
> Yes, Mike, I realised this must be the case when my old analogue multi
> meter needle started going backwards when I reversed the probes I
> actually got the predicted voltages from socket pin 5 but
> another piece of knowledge I've picked up during this exercise.
>
> I do have the service manual but it is largely a foreign language for
> me. PS1 & PS2 are the wire wound resistors which connect to Pin 5 -
> I couldnt get any voltage measurement from this board?
>
> So if I have conducted the Pin 5 measurement correctly and readings
> are where they should be. Any suggestions as to next steps?
>
> Trying some spare tubes was a possibility - but I gather from what I
> have read they should be neutralised - how is this done when you are
> trouble shooting a radio? Not keen to wreck spare tubes!
>
> 73
>
> VK5LTD
>
> Christopher
>
>
>

48230. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-17 13:18:53 UTC
From: Mike W5RKL
Topic: 47979 Message: 48230

Yes, Christopher, you need a DVM which you can get on eBay or elsewhere. What ever DVM you buy, make sure it has a maximum DC voltage range of at least "1000VDC". There are some DVMs that have a lower maximum DC voltage range of approximately 750VDC. I recommend the DVM with a max of 1000VDC DC voltage.

You don't have to switch the meter leads with a DVM, it automatically tells you what the voltage polarity is by simply connecting the leads to the circuit in question.

The leads are physically sensitive and can easily break so be careful. I have gone through 2 sets of DVM meter probes, they break at the probe plug that plugs into the meter. Poor quality by the Chinese who makes most of the DVM being sold today.

73
Mike W5RKL

On 3/17/2014 8:07 AM, Mike W5RKL wrote:
>
> Christopher,
>
> You do not need to be concerned about final amplifier neutralizing at
> the moment. We are only concerned about the excessive DC current
> flowing through the final tubes (IP meter pegs fully to the right), so
> RF is not part of the problem, at least it doesn't appear to be. I
> suspect, based on the video test results you showed, one of the 6146
> final tube has an internal short. That's why I suggested using a spare
> set of final tubes in place of the original tubes in your 520S.
>
> 73
> Mike W5RKL
>
> On 3/17/2014 7:51 AM, christopherlarwood@... wrote:
>>
>> Yes, Mike, I realised this must be the case when my old analogue
>> multi meter needle started going backwards when I reversed the probes
>> I actually got the predicted voltages from socket pin 5 but
>> another piece of knowledge I've picked up during this exercise.
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>> I do have the service manual but it is largely a foreign language for
>> me. PS1 & PS2 are the wire wound resistors which connect to Pin 5 -
>> I couldnt get any voltage measurement from this board?
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>> are where they should be. Any suggestions as to next steps?

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>> Trying some spare tubes was a possibility - but I gather from what I
>> have read they should be neutralised - how is this done when you are
>> trouble shooting a radio? Not keen to wreck spare tubes!
>>
>> 73
>>
>> VK5LTD
>>
>> Christopher
>>
>>
>
>

48231. TS-530 Filter Installation

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-17 15:04:58 UTC
From: <asoto66@...>
Topic: 48231 Message: 48231

I have a TS-530S that I enjoy very much. I have acquired a set of two filters (500 Hz CW, 1.8 KHz SSB) that I want to install. Although the manual seems pretty clear, i wanted to check if anybody had any "hands-on" feedback or recommendations before i open up the rig for this project. Is there anything i should be careful to watch out for or tips to doing this? Is access easy or tricky? Thanks for any advice.
Regards,
Al kj3q

48232. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-17 15:25:09 UTC
From: <rrmvargo@...>
Topic: 47979 Message: 48232

"I recommend the DVM with a max of 1000VDC DC voltage." - W5RKL
Probably meant: a minimum of 1000VDC potential.
73 - Bob

48233. Re: [TS-520_820_530_830] TS-530 Filter Installation

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-17 16:20:22 UTC
From: Joseph Stiles
Topic: 48231 Message: 48233

Al,

Filter installation is rather straight forward. Make sure that you are using the correct filter in the correct place and move the selection wires to the correct posts. You can access the underside of the IF BOARD by removing the screws that hold it in place and GENTLY rotating it up and over to get at the "foil side." This is handy as you are not pulling out all those "molex" connectors and possible inducing a fault with a cracked or detached solder pad!

73 Joe
WB7UQU

On Monday, March 17, 2014 8:06 AM, "asoto66@..." <asoto66@...> wrote:

>I have a TS-530S that I enjoy very much. I have acquired a set of two filters (500 Hz CW, 1.8 KHz SSB) that I want to install. Although the manual seems pretty clear, i wanted to check if anybody had any "hands-on" feedback or recommendations before i open up the rig for this project. Is there anything i should be careful to watch out for or tips to doing this? Is access easy or tricky? Thanks for any advice.
>
>Regards,
>Al kj3q
>
>
>

48234. Re: [TS-520_820_530_830] TS-530 Filter Installation

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-17 16:31:53 UTC
From: Craig Roberts
Topic: 48231 Message: 48234

Actually, filter installation is surprisingly easy and straightforward -- especially if you're using Kenwood/Trio filters.

Remove both top and bottom cabinet halves, remove the screws holding down the IF Board (which is on the top of the radio) and gently lift the board up and over to gain access to its circuit board trace side. You may have to CAREFULLY unplug a couple of connectors to make this easier and less stressful on the plugs and headers. it's best to unplug connectors with the use of needle nose or chain nose pliers so you can pull the plugs straight up rather than wiggling them side by side with your fingers (which is awkward anyway). The radio's circuit board traces are quite fragile. Caution should also be used in desoldering and soldering for the same reason.

I have installed filters in two TS-830Ss and two TS-530Ss, including a set of Inrad filters that must be wired in, with absolutely no complications.

Good luck -- and enjoy your new filters. If you're a CW guy, you'll love them.

73,

Craig
W3CRR

48235. Re: [TS-520_820_530_830] TS-530 Filter Installation

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-17 16:35:37 UTC
From: Craig Roberts
Topic: 48231 Message: 48235

Joe is right on both counts. You don't really need to unplug anything if you're gentle with the board and, as he said, don't forget about setting the jumpers correctly (the procedure's in the manual and very easy to do).

73,
Craig
W3CRR

48236. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-17 17:48:33 UTC
From: <paw_paw44036@...>
Topic: 47979 Message: 48236

You don't think that R2 and R3 on the final board could be open causing the meter to peg itself????
Seems to me that we had a discussion about this awhile back.
Bill WD8OSJ

48237. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-17 17:51:30 UTC
From: Mike W5RKL
Topic: 47979 Message: 48237

No Bob, I actually meant max 1KV rated DC voltage switch setting.

The DMM's 1000VDC switch setting or a DMM with auto voltage ranging, is not the "minimum" voltage the meter can measure but rather the maximum DC voltage the DMM can measure.

For example, I have the Excel DT9205A and the Rolls MU188 DMMs. Both have a DC voltage switch setting of 1000V. That DC voltage setting is the "maximum" DC voltage level the DMM can measure. The same applies to the "AC" switch setting or auto ranging the DMM has, the maximum voltage the meter can measure.

73
Mike W5RKL

On 3/17/2014 10:25 AM, rrmvargo@... wrote:
>
> "I recommend the DVM with a max of 1000VDC DC voltage." - W5RKL
> Probably meant: a minimum of 1000VDC potential.
> 73 - Bob
>
>

48238. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-17 18:16:26 UTC
From: Mike W5RKL
Topic: 47979 Message: 48238

Bill,

It's possible.

Christopher, make a video or take a picture showing the bottom of the final amplifier so we can see the resistors. There are two 10 ohm 1 watt cathode resistors that if they are open then the meter will peg fully to the right even with a good pair of 6146s.

73
Mike W5RKL

On 3/17/2014 12:48 PM, paw_paw44036@... wrote:
>
> You don't think that R2 and R3 on the final board could be open
> causing the meter to peg itself????
>
> Seems to me that we had a discussion about this awhile back.
>
> Bill WD8OSJ
>
>

48239. Re: TS-530 Filter Installation

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-17 23:22:14 UTC
From: <wagstw46@...>
Topic: 48231 Message: 48239

Just be very careful pulling the molex plugs and take the time to inspect under magnification the pin soldering. Any connector body that has much side to side motion is suspect.

Terry K9TW

48240. Thanks!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-18 12:30:47 UTC
From: <bsa0791@...>
Topic: 48240 Message: 48240

I wanted to thank the group and Terry for all the help on my TS 530. Everything seems to work great except for no tune alc on 12 and 10 meters(ssb alc is fine)..

Going to install a cw filter and put it to work!

Brian KB4MNG

48241. Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-18 11:22:20 UTC
From: <christopherlarwood@...>
Topic: 47979 Message: 48241

Another clip to review. I have conducted the tests Mike suggested.
Removal of one tube with SG switch turned on
Meter in ALC position - little movement & no response when drive is adjusted
Meter in IP position - no movement of needle in tune, CW or SSB
Meter in RF position - as above
I did the same test with the front tube removed with the same result.
I put in two spare tubes. With SG switched on - meter pegs in IP mode as previously.
You will also see in the clip after entering tune, the receive side of the radio is substantially reduced. A power on/off restores recv.?
I don't know if this is related but best resolve TX issue to start with.
https://www.youtube.com/watch?v=9WUHe0wnV9k&feature=youtu.be
https://www.youtube.com/watch?v=9WUHe0wnV9k&feature=youtu.be

48242. Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-18 12:20:10 UTC
From: <christopherlarwood@...>
Topic: 47979 Message: 48242

I've made this clip of the PA board to show the resistors.
https://www.youtube.com/watch?v=4_KbBC_iOYE&feature=youtu.be
https://www.youtube.com/watch?v=4_KbBC_iOYE&feature=youtu.be
From looking in the manual I take it the cathode resistors are R2 & R3 - provided I'm reading the diagram correctly - AKA the pink ones. Brown, Black Black bands = 10 ohms - There has definitely been some work done to this board previously - but given the radios age - hardly surprising.

Both the pink resister appear to measure open - needle doesn't budge on the MM and measuring the same resistors on the other 520 yields resistance of 7 or 8 ohms. Replacement of these two resistors look to be the next step.- Comments?
Vk5 LTD
Christopher

48243. kenwood ts-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-18 13:28:42 UTC
From: xmas card
Topic: 48243 Message: 48243

Hi ALL , Do any members know the solution to the AGC voltage gate 2 voltage on Q4 &Q8 being low when switching the set on from cold . The voltage should be 2.9 volts , but can be as low as 1.3 volts . this rail voltage is measured wiyh the agc off . After about 1 hour the voltage will rise to the correct voltage . I have replaced Q4 , Q8 Q2 Q3 C60 . the s meter driver transistor has also been replaced along with the agc timing capacitors but the fault still persists . Any loading of the agc rail seems to affect the 2.9 volt rail . i would be interested to know of any other people having this fault .
73 Alan G4MJO

48244. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-18 13:36:31 UTC
From: Mike W5RKL
Topic: 47979 Message: 48244

Christopher,

Okay, there's been a misunderstanding as to what you meant when you said the "IP meter pegging". I watched your video and I was waiting for the IP meter to peg fully to the "right" but the meter simply dropped to "zero" so that changes what I thought was happening.

You said you were going to check the resistors on the final PC board. Although the cathode resistors appear to be okay I would suggest you measure the cathode resistors to ensure they are okay.

When measuring the resistance of any resistor, make sure power is turned OFF and the HV filter capacitors are bled to zero. Use your volt meter to ensure the caps are bled down to zero.

By the way, the HV appears to be fine, +900VDC with the transmitter keyed. We need to find out why there is no IP idling current in the final amplifier.

To measure the resistors, connect your ohm meter lead across one of the larger resistor, color band should be BROWN BLACK BLACK and see approximately 5 ohms.

Remember, although both cathode resistors are 10 ohms, when they are soldered in the circuit the resistor are in "parallel" resulting in the resistance only being half, i.e., only 5 ohms.

The formula to determine the resistance value for 2 resistors in parallel is:

10 x 10 / 10 + 10 = 5 ohms

I used the 10 ohm cathode resistor values in the example.

You should also measure the final tube screen resistors, they are the smaller darker color banded resistors, BROWN BLACK BROWN. Connect the ohm meter across each screen resistor and you should see approximately 100 ohms.

Next, measure the meter multiplier resistors, it's the 3.3K with color bands ORANGE ORANGE RED. The meter multiplier resistor should be close to 3300 ohms (3.3K).

73
Mike W5RKL

On 3/18/2014 6:22 AM, christopherlarwood@... wrote:
>

> Another clip to review. I have conducted the tests Mike suggested.
>
> Removal of one tube with SG switch turned on
>
> Meter in ALC position - little movement & no response when drive is
> adjusted
>
> Meter in IP position - no movement of needle in tune, CW or SSB
>
> Meter in RF position - as above
>
> I did the same test with the front tube removed with the same result.
>
> I put in two spare tubes. With SG switched on - meter pegs in IP mode
> as previously.
>
> You will also see in the clip after entering tune, the receive side of
> the radio is substantially reduced. A power on/off restores recv.?
>
> I don't know if this is related but best resolve TX issue to start with.
>
> https://www.youtube.com/watch?v=9WUHe0wnV9k&feature=youtu.be
>
>
>

48245. Re: [TS-520_820_530_830] D-104 and Kenwood TS-520 - wiring (again)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-18 14:50:33 UTC
From: <lpleach@...>
Topic: 48031 Message: 48245

Ken,
I found that the switch, when pressed, also grounds it to the metal strip that acts as a backing, preventing proper switching. So I can fix that so it doesn't do that.
With that fixed, when switching it on now, the rig does go to zero on the meter. I also noted that when releasing it, the meter jumps up very high, depending on how high the carrier is set for. Not sure if that's normal.
I tired again with the mic attached and it still doesn't register my voice. I checked again the element with the V-meter and it is still responding.
So either the rig isn't responding to my voice and it really is working, or there is something else going on with the mic. I think I'll try making a contact to see if I get any response.

Larry
KF5YZZ

48246. Re: kenwood ts-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-18 16:01:55 UTC
From: <wagstw46@...>
Topic: 48243 Message: 48246

Alan:

No offense man but you are "easter egging". Very seldom do any of the active devices (dual gate mosfets) that you are changing ever fail. All this constant pulling of the IF board can result in damage and cause latent fault to bite you later (cracked molex pin pad to trace).

Yes the AGC rail by design is a very high impedance power supply (fed thru 2.2meg resistor) and has to be inorder for Q10 AGC amp to cause the dc control voltage to Gate 2 of these gain controlled devices to drop from it 3.6vdc and reduce the gain in presence of strong off air signals. Virtually any load including a 11 meg VTVM applied to the AGC bus will pull the voltage down and drive the S-meter up scale.

What is RF-1 doing at the Audio Board during all this. It should stay at nice steady 3.6vdc. If RF-1 is varying then the AGC rail will follow. If RF-1 is varying what is the 9vdc regulated doing? If it is stable try cleaning VR-3 trim pot on Audio board.

What is the S-meter doing in Slow with RF gain full CW? At 2.9vdc it should be reading up scale.

With rig down powered and AGC bus discharged what is the resistance that you read from the AGC bus to chassis ground?

Terry K9TW

48247. Re: [TS-520_820_530_830] D-104 and Kenwood TS-520 - wiring (again)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-18 16:29:10 UTC
From: Ken Winterling
Topic: 48031 Message: 48247

Larry,

OK on the switch repair. It sounds like you have the PTT wiring straightened out. Did you run through all of my suggested continuity tests to verify that the mic element isn't getting grounded anywhere after this last fix and after you reassembled the entire mic head and stand?

Also, with the mic fully assembled but not connected to the rig, did you try connecting your meter to pins 1 and 4 of the plug to see if you get the same reaction you did when putting the meter directly across the mic element? Since the wires from pins 1 and 4 are supposed to go directly to the terminals on the back of the mic element the meter should read the same. If it does not then there is still a wring problem.

I'm confused about your statement "I also noted that when releasing it, the meter jumps up very high, depending on how high the carrier is set for.". When you release the PTT bar the rig switches from transmit to receive and begins displaying the received signal strength. In receive the meter acts only as a received signal strength, or "S", meter. It can not display ALC, Ip, RF output, HV (High Voltage), or carrier(?) regardless of the meter switch position. It may be you are misusing the term "carrier" in this context. Can you describe what control you used to set this carrier level that is being displayed when the PTT is released?

Don't give up! You are very close...

Ken
WA2LBI

On Tue, Mar 18, 2014 at 10:50 AM, <lpleach@...> wrote:

>
>
> Ken,
> I found that the switch, when pressed, also grounds it to the metal
> strip that acts as a backing, preventing proper switching. So I can fix
> that so it doesn't do that.
> With that fixed, when switching it on now, the rig does go to zero on
> the meter. I also noted that when releasing it, the meter jumps up very
> high, depending on how high the carrier is set for. Not sure if that's
> normal.
> I tired again with the mic attached and it still doesn't register my
> voice. I checked again the element with the V-meter and it is still
> responding.
> So either the rig isn't responding to my voice and it really is
> working, or there is something else going on with the mic. I think I'll try
> making a contact to see if I get any response.

```
>
> Larry
> KF5YZZ
> _
>
```

48248. Re: kenwood ts-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-18 16:36:21 UTC
From: <wagstw46@...>
Topic: 48243 Message: 48248

Alan

I forgot to give you the typical AGC rail resistance measurements.

1. At Conn 15 pin 3 on IF board = 2.2 meg ohm
2. Carefully pull Conn 8 on IF board and measure again at Conn 15 = 4.7 meg ohm

In the old days we use to get excited if the "AVC" bus was less than approx 10 meg ohm, but the KW hybrid works fine around 4.7 meg ohm. Was in a great while you will find a leaky AGC timing cap but not very often.

Best meter I know of for AGC and ALC bus work is the old HP-410B and C that have over 100meg input Z and the rails wont know the meter is hanging on them.

I have never seen a leaky Q11 S-meter FET. If it is bad it usually shorts and pulls the AGC bus down and pegs the S-meter and shuts down the receiver.

Again I would want to make sure that reference voltage RF-1 is stable and not slowly moving up or down. Not common for it to do that.

Terry K9TW

48249. Re: kenwood ts-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-18 17:46:03 UTC
From: <alan023@...>
Topic: 48243 Message: 48249

Hello Terry thanks for your reply , I will look at all the things you have mentioned over the next couple of days .
The problem i have had and the reason i am struggling with this TS- 830 , IS THAT A FELLOW HAM removed the CW filter and on replacing the IF BOARD he reversed plugs 8&9 on the I.F board .These connections are next to each other and both 5 pin . I have checked RF 1 and i think it was just under 3.6 volts but stable .
Reversing PLUGS 8&9 on the I.F board took out the I.F & mixer mossfets . I find human error faults are the worst to find . I will contact you again after more inbvestigations . 73
Alan G4MJO

48250. BPF alignment and the TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-18 20:13:45 UTC
From: <crgrbrts@...>
Topic: 48250 Message: 48250

My TS-830S still suffers from two transmit anomalies; possibly or probably related:

On 40 meters, peaking of the RF drive coil must be accomplished at the low end of the band (like 7.010 MHz), rather than at the instructed 7.150 MHz. Otherwise, drive at that end of the band -- as indicated by ALC metering in TUNE -- is "glitchy" with double peaks and erratic response.

On 10 meters at 28.800 MHz, peaking of the RF Drive coil must be accomplished with the Drive control set at about 2 o'clock rather than the instructed 12 o'clock. Otherwise there is no Drive as indicated by ALC metering and power output is low. All is normal if the drive coil is peaked with the drive control at 2 o'clock.

It has been suggested by a Drake tech -- who also works on Kenwoods from time to time -- that band pass filter misalignment (via the PLL board) is the culprit. Can this be so and, if so, can BPF alignment be accomplished without the requisite sweep generator, etc.?

Thanks and 73,

Craig
W3CRR

48251. Re: TS-530 Filter Installation

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-18 20:20:06 UTC
From: Brian Allen
Topic: 48231 Message: 48251

I know you have a slot for a cw and a ssb but can you have both? I only see one jumper. I was thinking you could only have one option filter.

I have a cw and ssb filter also and would like to use both.

brian kb4mng

48252. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-18 20:32:49 UTC
From: <paw_paw44036@...>
Topic: 47979 Message: 48252

Mike,
If you look at the video again you will see he has one tube removed from the set.
Bill WD8OSJ

48253. Re: [TS-520_820_530_830] Re: TS-530 Filter Installation

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-18 20:34:28 UTC
From: Joseph Stiles
Topic: 48231 Message: 48253

Brian,

 The IF BOARD (48-1310-00) has provision for 3 installed filters.

Usually you will see just the YK-88S...this is filter for SSB

 Then you have another space for a YK-88C or YK-88CN...these are CW filters

  Then you have another space for a YK-88SN...another SSB filter

  The "N" stand for narrow.

  The jumpers in question are right next to connector #5.

  Look at Pg. 23 of the TS-530S Instruction Manual.

73 Joe
WB7UQU

On Tuesday, March 18, 2014 1:23 PM, Brian Allen <bsa0791@...> wrote:

>I know you have a slot for a cw and a ssb but can you have both? I only see one jumper. I was thinking you could only have one option filter.
>
>I have a cw and ssb filter also and would like to use both.
>
>brian kb4mng
>
>
>
>
>
>

48254. Re: [TS-520_820_530_830] Re: TS-530 Filter Installation

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-18 20:38:10 UTC
From: Craig Roberts
Topic: 48231 Message: 48254

Yes, you can install both the 500 Hz (or 250 Hz) and 1.8 KHz SSB filters in the TS-530S. I did so on mine. With the jumpers connected correctly, the "normal" CW bandwidth will now be 1.8 KHz with "Narrow" selection at 500 Hz (or 250 Hz). In SSB, normal bandwidth will be the stock 2.4 KHz with 1.8 KHz being the "Narrow" selection.

It's slick.

48255. Oh, oh!!!!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-18 20:39:29 UTC
From: Craig Roberts
Topic: 48231 Message: 48255

Please excuse me. I forgot to sign my last "trtansmission"...

"Craig
W3CRR"

Craig
W3CRR

48256. Re: kenwood ts-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-18 21:37:21 UTC
From: <wagstw46@...>
Topic: 48243 Message: 48256

Alan

OK I made an assumption based on what I see and read on various forums. Lot of changing out of active devices instead of troubleshooting. Yes sure doesnt help when human error is the root cause. I still take photos and make drawings after 10 years and can almost see these boards in my sleep!

OK if RF-1 is little low no problem easy to adjust and a little low is not your problem. Might clean the RF gain pot if you have not already done so and also meter the RFG pin at Conn 8 on the IF board and see if it is stable at power on and warm up. RFG should not move as it is fed by RF-1 thru the RF gain pot.

Terry K9TW

48257. Re: BPF alignment and the TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-18 22:55:14 UTC
From: <wagstw46@...>
Topic: 48250 Message: 48257

Craig:

Sounds like been talking to SAJ.

You may want to wait and see what other TS830 owners have to say but here is my two cents.

Have you done Step 9 of the Service Manual yet? If not do it before you worry about looking at the BPFs. Need a DMM applied to TP-1 to measure and adjust the Varactor diode control voltage and a Freq counter at D40 to measure VCO frequency and means to measure the VCO voltage level at the RF board at each end of the VFO range. Should not be any less than 800mv. Typically will be 1.0 to 1.5 rms rf volts at VFO 250 position. Can measure with RF probe/ VTVM, RF millivolt meter, or O-scope.

Yes couple of ways to check the BPF response without a Sweep Gen. Can verify the center frequency (Fc) just by using the VFO and a RF millivolt meter or O-scope at Emitter of Q35. I use a micro-grabber test lead to clip on the emitter lead. Cant look at Fl or Fh as the VFO range will not go low or high enough. But if Fc is very close not likely anyone has messed with the BPF coils.

Also can check the frequency response the old fashioned way and unplug the VFO input to the PLL and use standard RF sig gen to inject 50 to 100 khz steps and record the RF output voltage and then plot the levels on graph paper. A little tedious but can get a nice accurate look at what the response curves looks like now. Just not a practical method for making any needed adjustments.

If you have problems meeting the acceptance criteria of Step 9 then come back and we can talk more specifics of how to obtain a response curve for all three filters without a sweep generator. Of course you could buy a spectrum analyzer and tracking generator or a 2 port VNA and when finished keep them at my house!

Terry K9TW

48258. TS 530

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-18 23:06:50 UTC
From: <bsa0791@...>
Topic: 25861 Message: 48258

I may have spoken too soon. The TS 530 has a major problem. Yesterday, I had several cw contacts. Today, I cut the radio on and the smeter pegs with no receive. There is a slight hiss that can be increased-decreased by the volume control. The vfo, display is fine. I have the sg switch and heater off. The front controls are set correctly. Something happened internally since operating yesterday.

The s meter stays pegged unless I switch to tune and send.

Has anyone see this before?

Brian KB4MNG

48259. Re: [TS-520_820_530_830] TS 530

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-18 23:12:43 UTC
From: Ken Winterling
Topic: 25861 Message: 48259

Brian,

Check the RF gain control. It should be full clock wise.

On Tuesday, March 18, 2014, <bsa0791@...> wrote:

>
>
> I may have spoken too soon. The TS 530 has a major problem. Yesterday, I
> had several cw contacts. Today, I cut the radio on and the smeter pegs with
> no receive. There is a slight hiss that can be increased-decreased by the
> volume control. The vfo, display is fine. I have the sg switch and heater
> off. The front controls are set correctly. Something happened internally
> since operating yesterday.
>
> The s meter stays pegged unless I switch to tune and send.
>
> Has anyone see this before?
>
> Brian KB4MNG
> _
>

--

Ken
WA2LBI
Sent from iPad Gmail Mobile

48260. Re: TS-520_820_530_830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-18 23:17:34 UTC
From: <bsa0791@...>
Topic: 25861 Message: 48260

The rf gain control is set correctly...

thanks Brian

48261. Re: [TS-520_820_530_830] Re: TS-520_820_530_830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-18 23:19:50 UTC
From: Ken Winterling
Topic: 25861 Message: 48261

Sorry, I was hoping for simple...

On Tuesday, March 18, 2014, <bsa0791@yahoo.com> wrote:

>
>
> The rf gain control is set correctly...
>
> thanks Brian
>
>

--

Ken
WA2LBI
Sent from iPad Gmail Mobile

48262. Re: BPF alignment and the TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-19 00:48:33 UTC
From: <wagstw46@...>
Topic: 48250 Message: 48262

Craig:

I forgot to ask one thing. When you turn the VFO to 0 and 500 ends of the range does the display blank? If so then of course an issue and as I mentioned would do Step 9 first to see if encounter any problem getting the results there.

Terry K9TW

48263. TS520 Transmit Issue

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-19 00:00:24 UTC
From: <n5pjy@...>
Topic: 48263 Message: 48263

Hello guys, I am hoping you can help me out with the transmit issue on my 520. It was transmitting just fine until one day I was told my CW signal had a hum on it. Well everything else checks out okay as far as receive, on frequency transmit, but it has a serious (what seems to me) a 60Hz hum on it or similar. Could it be a capacitor on the drive or final section. I love using this rig for my straight key CW operations and would like to get it resolved. Please help. I posted a video on youtube to show you what is happening on the oscilloscope, and the audio is lousy I know, but maybe you can still hear it. The scope is fed with the audio from the TS440 in the video. Thank you all.

N5PJY

48264. Re: kenwood ts-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-19 10:51:03 UTC
From: <alan023@...>
Topic: 48243 Message: 48264

Hi Terry , the 3.6 volt rail seems good . What does seem to be the problem is the loading (DC resistance of the AGC rail) . When the set has been running for about 1.5 hours the readings of 2.2 meg and 4.7 meg are correct . When the radio is cold the readings are 1.6 megs and 5 megs . I think this is why i was looking for a leaky component during its warm up period . 73 Alan G4MJO

48265. RE: [TS-520_820_530_830] TS520 Transmit Issue

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-19 11:44:22 UTC
From: Rick Klinge
Topic: 48263 Message: 48265

It seems that perhaps W5RKL, Mike, might have the same diagnoses as you've preliminary discovered.

The 4th post down has a good synopsis within his final writings.

<http://forums.qrz.com/archive/index.php/t-268145.html>
http://forums.qrz.com/archive/index.php/t-268145.html

73

Rick

AC0TT

From: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com] On Behalf Of n5pjy@...
Sent: Tuesday, March 18, 2014 7:00 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: [TS-520_820_530_830] TS520 Transmit Issue

Hello guys, I am hoping you can help me out with the transmit issue on my 520. It was transmitting just fine until one day I was told my CW signal had a hum on it. Well everything else checks out okay as far as receive, on frequency transmit, but it has a serious (what seems to me) a 60Hz hum on it or similar. Could it be a capacitor on the drive or final section. I love using this rig for my straight key CW operations and would like to get it resolved. Please help. I posted a video on youtube to show you what is happening on the oscilloscope, and the audio is lousy I know, but maybe you can still hear it. The scope is fed with the audio from the TS440 in the video. Thank you all.

N5PJY

48266. Re: [TS-520_820_530_830] TS520 Transmit Issue

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-19 12:04:18 UTC
From: Mike W5RKL
Topic: 48263 Message: 48266

Rick and William,

It's quite possible the AC ripple (Hum) heard on the CW signal can be caused by a failing 210 or 300 supply filter capacitor. Those 2 supplies provide the B+ voltage to the driver tube and the screen voltage to the final tubes. Those capacitors are located on the left rear below the VOX and Marker boards, 2 black dual 22ufd 350VDC can caps, each one has two 22ufd 350VDC capacitors in each can. Replacement are not easy to find. They are labeled C15A/B and C16A/B on the 520 schematic.

I doubt the HV filter capacitors are the source of AC ripple (hum) on the CW transmit signal. If the 520 is still producing full output, even with AC ripple on the CW transmit signal, then the HV caps are most likely not the source of the AC ripple (hum) on the CW transmit signal. More than likely the source is either C15A/B or C16A/B caps located below the VOX and Marker unit boards on the top left rear of the 520 chassis.

73
Mike W5RKL

On 3/19/2014 6:44 AM, Rick Klinge wrote:
>
> It seems that perhaps W5RKL, Mike, might have the same diagnoses
> as you’ve preliminary discovered.
>
> The 4th post down has a good synopsis within his final writings.
>
> http://forums.qrz.com/archive/index.php/t-268145.html
>
> 73
>
> Rick
>
> AC0TT ?
>
> *From:*TS-520_820_530_830@yahoogroups.com
> [mailto:TS-520_820_530_830@yahoogroups.com] *On Behalf Of
> *n5pjy@...
> *Sent:* Tuesday, March 18, 2014 7:00 PM
> *To:* TS-520_820_530_830@yahoogroups.com
> *Subject:* [TS-520_820_530_830] TS520 Transmit Issue
>
>
>
> Hello guys, I am hoping you can help me out with the transmit issue on

> my 520. It was transmitting just fine until one day I was told my CW
> signal had a hum on it. Well everything else checks out okay as far as
> receive, on frequency transmit, but it has a serious (what seems to
> me) a 60Hz hum on it or similar. Could it be a capacitor on the drive
> or final section. I love using this rig for my straight key CW
> operations and would like to get it resolved. Please help. I posted a
> video on youtube to show you what is happening on the oscilloscope,
> and the audio is lousy I know, but maybe you can still hear it. The
> scope is fed with the audio from the TS440 in the video. Thank you all.
>
> N5PJY
>
>
>

48267. Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-19 12:56:27 UTC
From: <christopherlarwood@...>
Topic: 47979 Message: 48267

A further update. As suspected the cathode resistors were open and the 470 ohm resistor alongside it had also failed. I replaced these 3 components and we have lift off! - well TX anyway with 100 watt output CW & SSB.
I have made a further clip to demo how the radio is operating.
https://www.youtube.com/edit?o=U&video_id=kWZFV5htf4w
https://www.youtube.com/edit?o=U&video_id=kWZFV5htf4w
There appears to be still a "minor" problem with IP meter reading when tuning as you will see in the clip.
As I noted in the last clip , the close up of the PA board, there had been some repair work done previously and rather large amount of solder had been used. I wonder if some tracks on the PCB are now connected by the river of solder causing the reading. You can see from my SWR/PWR meter that the RF output power is right on the mark. Should I remove some of the solder with braid to clean up the board & re solder the components? Or is there something else to consider?
The needle does move around more quickly than in the past when talking also but my signal and audio reports on the Southern Cross DX net tonight were all excellent.
The other resistors on the board measured correct values as per service manual
Thanks all for input and assistance so far.
VK5LTD
Christopher

48268. Re: [TS-520_820_530_830] D-104 and Kenwood TS-520 - wiring (again)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-19 12:57:03 UTC
From: <lpleach@...>
Topic: 48031 Message: 48268

Ken,
I use the carrier knob on the rig to adjust the carrier. The higher it is set, the higher the needle goes when releasing the PTT. I worked with the switch a bit more last night and it isn't an issue now.
I also tried out the mic last night to see if I was getting out at all. Not a peep.
I tried having just the switch and the mic element directly attached to the cable wires to completely eliminate the stand. The PTT works fine, but no transmission.
I've double checked connectivity through the pins to the switch and mic in every way I can think of and it's all connecting good.

Larry
KF5YZZ

48269. Cost and Kit info for DDS VFO

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-19 13:34:00 UTC
From: <cocobean64@...>
Topic: 48269 Message: 48269

Hello Everyone,
I've finalized the unit and totaled it all up. The majority of cost (about $200) is in the cabinet, display, encoders and two Arduinos.

Here's a breakdown of the cost.....prices included shipping to my QTH
Main Cabinet;
5" LCD Touch -$58
TFT Shield for Due -$13
Arduino Due -$40
Proto Shield -$15
2 Encoders -$50
Small Knobs -$8
Cab Feet -$10
Vfo Knob -$25
USB Panel Mnt -$8
USB Cable -$7
IDE Cable -$10
Cabinet -$60

In Radio;
Arduino Mega -$24
AD9850 -$10
RC cables -$5
Relay Module -$7
15x100 Ohm -$2
15x90 Ohm -$2
1x56 Ohm -$0.20

Misc;
Stackable Pins -$10
Jumper Kit -$6
Misc Leds -$1
Power Switch -$1
Led holder -$1
Power/data cable(s) -$6

Total is roughly $375

You could lessen the cost with a cheaper cabinet, smaller display.....
The initial response to this project was " When can we get one" or "Kits!" but after posting the cost, this died faster than "fart in a windstorm" so I will not offer or make any "kits".

Save some more $ and you can buy an IC-718 which will do the same + more, but that's not why I built this, I wanted this for more enjoyment out of my Kenwood hybrid.
If you decide to build your own version and want my code.....get a hold of me.

73
Bart
KB8BAB

48270. Re: [TS-520_820_530_830] D-104 and Kenwood TS-520 - wiring (again)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-19 13:45:28 UTC
From: Ken Winterling
Topic: 48031 Message: 48270

Larry,

I don't recall if you have tested a known-good mic on the rig. Have you?
If you have a mic that works on the rig then set your DMM/VOM on the
lowest AC scale and measure across pins 1 and 4 of the known-good mic.
Whistle into the mic to see the response on the meter. Repeat the test
with the D-104 and see if the response is similar.

You say you have a meter response when measuring directly across the D-104
mic element in the head. I do not understand how you can have a meter
response there and not get the same response when measuring across pins 1
and 4 of the mic plug UNLESS there is a wiring error OR you are measuring
across the wrong pins in the plug.

Ken
WA2LBI

On Wed, Mar 19, 2014 at 8:57 AM, <lpleach@...> wrote:

>
>
> Ken,
> I use the carrier knob on the rig to adjust the carrier. The higher it
> is set, the higher the needle goes when releasing the PTT. I worked with
> the switch a bit more last night and it isn't an issue now.
> I also tried out the mic last night to see if I was getting out at
> all. Not a peep.
> I tried having just the switch and the mic element directly attached
> to the cable wires to completely eliminate the stand. The PTT works fine,
> but no transmission.
> I've double checked connectivity through the pins to the switch and
> mic in every way I can think of and it's all connecting good.
>
> Larry
> KF5YZZ
>

48271. Re: kenwood ts-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-19 13:46:22 UTC
From: <wagstw46@...>
Topic: 48243 Message: 48271

OK if you have a solid 3.6vdc RF-1 voltage at IF board Conn 8 RFG pin then most likely you have solid 3.6vdc available at R199 2.2 meg resistor that feeds the rail. Only thing that could impede that is a high resistance solder connection at Conn 8 Pin 2 and can typically see that by gently rocking the molex connector body back and forth as you monitor the AGC rail voltage.

By the way R199 may be labeled incorrectly as R149 on your schematic and silk screened as R199 on the board. There is another and correct R149 supplying Pin 6 of Q26 Processor Limiter chip. The R199 you are concerned with is physically located between Conn 8 and Conn 9 and I have never seen a bad one as very little current involved. So cant see heating of R199 being the problem.

Well as I mentioned not likely that any of the Gate 2 of the gain controlled mosfets are leaky or the meter FET gate. That leaves AGC timing capacitors as suspect. You have the bigger ones close to R199 and smaller ones at each IF amp and at Q1 RF amp. I have never replaced Q1 time constants R12 or C45. I suppose you could pull Conn 5 on RF board and eliminate that end of the AGC rail as suspect.

I think you said you disabled the AGC to make sure that Q10 wasnt involved. I suppose you could replace Q10 and Q11, but that would be guessing. Sometimes easier to just do that. If you pull the IF board to replace them I would also replace the following caps as a minimum:
1. C177 1uf (make sure installed correct polarity as some rigs it is reversed)
2. C184 .22uf
3. C83 .022 or .033uf

KW used a variety of values for C83 including .22uf, .022uf, .33uf, and .033uf. I would re-install either a .022 or a .033.

Problem is if you replace all these components and it fixes the problem you wont know what was wrong and that drives me nuts!

Lastly did you mention C60 as suspect? C60 works with the -6vdc that back biases the detector diodes to set the AGC threshold level. I would think that being leaky would affect when Q10 begins to turn on. Have to think about that some more. Could easily replace it if changing the rail timing caps.

That is the best I can do for you. Good luck.

Terry K9TW

48272. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-19 13:51:39 UTC
From: Mike W5RKL
Topic: 47979 Message: 48272

Christopher,

You said you removed a "470 ohm 1 watt" resistor from the final amplifier PC board. There isn't a 470 ohm resistor on the final amplifier PC board.

I did not see a 470 ohm resistor on the final amplifier PC board in the video you made that shows the bottom of the final amplifier PC board. If you look at that video you will see a 1/2 watt 3.3K (ORANGE ORANGE RED) resistor next to one of the 10 ohm 1 watt cathode resistors. Is that the resistor you are referring to as "470 ohms"? I hope not because that's the meter multiplier resistor and it's 3.3K 1/2 watt not 470 ohm 1 watt.

Also, do NOT leave the transmitter keyed when the IP meter pegs fully to the right as you show in your video! The meter can be damaged.

73
Mike W5RKL

On 3/19/2014 7:56 AM, christopherlarwood@... wrote:
>
> A further update. As suspected the cathode resistors were open and
> the 470 ohm resistor alongside it had also failed. I replaced these 3
> components and we have lift off! - well TX anyway with 100 watt output
> CW & SSB.
>
> I have made a further clip to demo how the radio is operating.
>
> https://www.youtube.com/edit?o=U&video_id=kWZFV5htf4w
>
> There appears to be still a "minor" problem with IP meter reading when
> tuning as you will see in the clip.
>
> As I noted in the last clip , the close up of the PA board, there had
> been some repair work done previously and rather large amount of
> solder had been used. I wonder if some tracks on the PCB are now
> connected by the river of solder causing the reading. You can see
> from my SWR/PWR meter that the RF output power is right on the
> mark. Should I remove some of the solder with braid to clean up the
> board & re solder the components? Or is there something else to consider?
>
> The needle does move around more quickly than in the past when talking
> also but my signal and audio reports on the Southern Cross DX net
> tonight were all excellent.
>
> The other resistors on the board measured correct values as per

> service manual
>
> Thanks all for input and assistance so far.
>
> VK5LTD
>
> Christopher
>
>

48273. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-19 14:16:06 UTC
From: <wagstw46@...>
Topic: 47979 Message: 48273

Mike

I agree with you it appears wrong value of meter multiplier installed.

It looked like he had very high plate current in tune mode(260ma) which is not possible if half screen grid voltage and normal operating bias voltage.

Appears he had approx 260 ma in Tune and his dip was to approx 200ma. That is not possible in Tune. Should be on order of 75ma and dip to approx 60 ma.

Terry K9TW

48274. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-19 14:28:04 UTC
From: Mike W5RKL
Topic: 47979 Message: 48274

Terry,

Yes I agree. It sure didn't look right to me when I watched the video. When he said he removed/replace the 470 ohm resistor I thought, "which 470 ohm resistor? There isn't a 470 ohm resistor on the final PC board."

If the 3.3K multiplier resistor was, in fact, changed to 470 ohms then Christopher's 60ma indication, in IP, is wrong and if he keeps the transmitter key in CW mode with the meter switch set to IP with the meter pegged fully to the right, the meter can be permanently damaged. The IP in TUNE mode should be much less. It would be interesting to see what the cathode voltage is now with the replaced resistors with 60ma of idling current showing on the IP meter. He can do that by measuring the cathode voltage, leaving the meter switch set to any position than IP.

Looking at the video link, I can see a "3.3K 1/2 watt" resistor which is the meter multiplier next to one of the 10 ohm cathode resistors. I don't know where Christopher found a 470 ohm resistor on the final PC board, it's simply is not there.

Mike W5RKL

On 3/19/2014 9:16 AM, wagstw46@... wrote:
>
> Mike
>
>
> I agree with you it appears wrong value of meter multiplier installed.
>
> It looked like he had very high plate current in tune mode(260ma)
> which is not possible if half screen grid voltage and normal operating
> bias voltage.
>
> Appears he had approx 260 ma in Tune and his dip was to approx 200ma.
> That is not possible in Tune. Should be on order of 75ma and dip to
> approx 60 ma.
>
> Terry K9TW
>

48275. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-19 15:01:44 UTC
From: <wagstw46@...>
Topic: 47979 Message: 48275

I thought about you asking him to meter the IR drop with a DMM, but I think having him validate that R4 is 3.3k and not 470 ohm is the way to go. He should not rely solely on reading and interpreting the color bands. Also make sure no less than 5% tolerance.

The TS520 meter is approx 600 ohms internal R so with a 470 multiplier almost splitting the IR drop across the 5 ohms in half. A lot of voltage to apply to a meter movement that likes to see approx 0.27vdc for full scale.

See some pretty strange work done on these rigs and maybe previous owner got confused about R5 or R6 on the HV Rect board and thought they were talking about R4 on the final board? Pretty far fetched, but why would anyone install a 470 ohm in place of a 3.3k?

Anyway just wanted you to know I agreed with your assessment not that you need any help! Just moral support!

Terry K9TW

48276. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-19 15:53:35 UTC
From: Mike W5RKL
Topic: 47979 Message: 48276

Terry,

Yes, if the meter multiplier resistor, R4, was changed from 3.3K 1/2 watt to 470 ohms 1 watt then the IP meter indications in both TUNE and CW mode will be wrong. That is why I think the meter is pegging fully to the right in CW mode and the IP indication is way too high in TUNE mode. R4 must be 3.3K 1/2 watt not 470 ohm 1 watt.

Mike W5RKL

On 3/19/2014 10:01 AM, wagstw46@... wrote:
>
> I thought about you asking him to meter the IR drop with a DMM, but I
> think having him validate that R4 is 3.3k and not 470 ohm is the way
> to go. He should not rely solely on reading and interpreting the color
> bands. Also make sure no less than 5% tolerance.
>
>
> The TS520 meter is approx 600 ohms internal R so with a 470 multiplier
> almost splitting the IR drop across the 5 ohms in half. A lot of
> voltage to apply to a meter movement that likes to see approx 0.27vdc
> for full scale.
>
> See some pretty strange work done on these rigs and maybe previous
> owner got confused about R5 or R6 on the HV Rect board and thought
> they were talking about R4 on the final board? Pretty far fetched, but
> why would anyone install a 470 ohm in place of a 3.3k?
>
> Anyway just wanted you to know I agreed with your assessment not that
> you need any help! Just moral support!
>
> Terry K9TW
>

48277. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-19 16:18:56 UTC
From: Mike W5RKL
Topic: 47979 Message: 48277

Terry and others,

Yep and I forgot to include the voltage applied to the meter assuming 60ma of idling current flowing in the final tubes and R4 changed from 3.3K to 470 ohms.

The voltage applied to the meter will be "+.168VDC" with R4 being 470 ohms verses "+.04623VDC" with R4 being 3.3K.

The key is the voltage drop across R4 meter multiplier, which is +.131741 volts with R4 being 470 ohms verses +.25377 volts with R4 being 3.3K. The higher the voltage drop across R4 the lower the voltage will be that's applied to the meter in IP position. The opposite is true, the lower the voltage drop across R4 the higher the voltage will be applied to the meter!!!

This is why Christopher's IP meter is way too high in TUNE mode and pegging fully to the right in CW mode!!! R4 MUST be 3.3K not 470 ohms!!!

73
Mike W5RKL

On 3/19/2014 10:01 AM, wagstw46@... wrote:
>
> I thought about you asking him to meter the IR drop with a DMM, but I
> think having him validate that R4 is 3.3k and not 470 ohm is the way
> to go. He should not rely solely on reading and interpreting the color
> bands. Also make sure no less than 5% tolerance.
>
>
> The TS520 meter is approx 600 ohms internal R so with a 470 multiplier
> almost splitting the IR drop across the 5 ohms in half. A lot of
> voltage to apply to a meter movement that likes to see approx 0.27vdc
> for full scale.
>
> See some pretty strange work done on these rigs and maybe previous
> owner got confused about R5 or R6 on the HV Rect board and thought
> they were talking about R4 on the final board? Pretty far fetched, but
> why would anyone install a 470 ohm in place of a 3.3k?
>
> Anyway just wanted you to know I agreed with your assessment not that
> you need any help! Just moral support!
>
> Terry K9TW
>

48278. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-19 16:25:39 UTC
From: Mike W5RKL
Topic: 47979 Message: 48278

One more thing.

Assume the cathode voltage is +.3VDC (60ma idling cathode current) and the meter multiplier resistor is 470 ohm, calculate the current through the meter circuit then the voltage drop across R4. Subtract the voltage drop across R4 from the cathode voltage and you get the DC voltage that will be applied to the meter! In this case the DC voltage applied to the meter (IP setting) is 3.5 times higher than it should be, again resulting in a significant error in the IP meter indications in ALL modes!

73
Mike W5RKL

On 3/19/2014 11:18 AM, Mike W5RKL wrote:
>
> Terry and others,
>
> Yep and I forgot to include the voltage applied to the meter assuming
> 60ma of idling current flowing in the final tubes and R4 changed from
> 3.3K to 470 ohms.
>
> The voltage applied to the meter will be "+.168VDC" with R4 being 470
> ohms verses "+.04623VDC" with R4 being 3.3K.
>
> The key is the voltage drop across R4 meter multiplier, which is
> +.131741 volts with R4 being 470 ohms verses +.25377 volts with R4
> being 3.3K. The higher the voltage drop across R4 the lower the
> voltage will be that's applied to the meter in IP position. The
> opposite is true, the lower the voltage drop across R4 the higher the
> voltage will be applied to the meter!!!
>
> This is why Christopher's IP meter is way too high in TUNE mode and
> pegging fully to the right in CW mode!!! R4 MUST be 3.3K not 470 ohms!!!
>
> 73
> Mike W5RKL
>
>

48279. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-19 16:38:37 UTC
From: CROOKS David
Topic: 47979 Message: 48279

Terry,
"...make sure NO LESS than 5% tolerance."

...make sure NO MORE than 5% tolerance.?

Cheers
Dave f4eyk

48280. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-19 17:02:18 UTC
From: <wagstw46@...>
Topic: 47979 Message: 48280

Dave:

At least someone is reading and paying attention ! Objective was to make sure he didnt install a 20% tolerance. At no less than 5% he sure could!

Yes original was a +/- 5% tolerance. Good enough for a meter that smallest graduations is 10ma and we arent too concerned about precisely measuring 200 or 225 ma.

I like to use 1% for meter multipliers as they are cheap.

Kind of like back in the day when we built our Heathkit VOMs and VTVMs. I actually built an RCA VOM first from a home correspondence electronic course I took. It looked a lot like a Simpson 260 but then I digress.

Thanks
Terry K9TW.

---In TS-520_820_530_830@yahoogroups.com, <dave.crooks@...> wrote :

☐ Terry,
"...make sure NO LESS than 5% tolerance."

...make sure NO MORE than 5% tolerance.?

Cheers
Dave f4eyk

48281. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-19 17:19:13 UTC
From: Mike W5RKL
Topic: 47979 Message: 48281

Terry, Dave, Christopher, and others who are following along,

I did the calculations using a 3.3K resistor with both 5% and 10% tolerance ratings. I used +.3VDC of cathode voltage (typical with 60ma flowing in the final tubes and 5 ohms of cathode resistance). The calculations are based on the resistor being 3.3K and tolerances are 5% and 10%. I am well aware that resistors are not always what their color band state but for this discussion we will assume the resistor is 3.3K and either 5% or 10%. I also assume the meter internal resistance is 600 ohms. Not all meters will have exactly 600 ohms but, again, for this discussion we will assume the meter's resistance is 600 ohms.

R4 is 3.3K 5%:
The meter circuit current is .0000738 amps (73.8ua). The voltage applied to the meter will be approximately .044383VDC.

R4 is 3.3K 10%:
The meter circuit current is .0000709 amps (70.9ua). The voltage applied to the meter will be approximately .042633VDC.

That's a difference of 2.9ua and 1.75mv between 5% and 10% tolerance resistors. I do not believe that small difference in current and voltage will result in a change in the meter indication, in IP position, that will be of any concern.

73
Mike W5RKL

On 3/19/2014 12:02 PM, wagstw46@... wrote:
>
> Dave:
>
>
> At least someone is reading and paying attention ! Objective was to
> make sure he didnt install a 20% tolerance. At no less than 5% he sure
> could!
>
> Yes original was a +/- 5% tolerance. Good enough for a meter that
> smallest graduations is 10ma and we arent too concerned about
> precisely measuring 200 or 225 ma.
>
> I like to use 1% for meter multipliers as they are cheap.
>
> Kind of like back in the day when we built our Heathkit VOMs and
> VTVMs. I actually built an RCA VOM first from a home correspondence
> electronic course I took. It looked a lot like a Simpson 260 but then

> I digress.
>
> Thanks
> Terry K9TW.
>
>
> ---In TS-520_820_530_830@yahoogroups.com, <dave.crooks@...> wrote :
>
> □
> Terry,
> "...make sure NO LESS than 5% tolerance."
> ...make sure NO MORE than 5% tolerance.?
> Cheers
> Dave f4eyk
>

48282. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-19 17:21:15 UTC
From: Mike W5RKL
Topic: 47979 Message: 48282

I am not saying one should use 10% resistor for the meter multiplier.
I'm simply showing the difference between 5% and 10% resistors used in
the IP meter circuit, nothing more.

73
Mike W5RKL

On 3/19/2014 12:19 PM, Mike W5RKL wrote:
>
> Terry, Dave, Christopher, and others who are following along,
>
> I did the calculations using a 3.3K resistor with both 5% and 10%
> tolerance ratings. I used +.3VDC of cathode voltage (typical with 60ma
> flowing in the final tubes and 5 ohms of cathode resistance). The
> calculations are based on the resistor being 3.3K and tolerances are
> 5% and 10%. I am well aware that resistors are not always what their
> color band state but for this discussion we will assume the resistor
> is 3.3K and either 5% or 10%. I also assume the meter internal
> resistance is 600 ohms. Not all meters will have exactly 600 ohms but,
> again, for this discussion we will assume the meter's resistance is
> 600 ohms.
>
> R4 is 3.3K 5%:
> The meter circuit current is .0000738 amps (73.8ua). The voltage
> applied to the meter will be approximately .044383VDC.
>
> R4 is 3.3K 10%:
> The meter circuit current is .0000709 amps (70.9ua). The voltage
> applied to the meter will be approximately .042633VDC.
>
> That's a difference of 2.9ua and 1.75mv between 5% and 10% tolerance
> resistors. I do not believe that small difference in current and
> voltage will result in a change in the meter indication, in IP
> position, that will be of any concern.
>
> 73
> Mike W5RKL
>
>
> On 3/19/2014 12:02 PM, wagstw46@... wrote:
>>
>> Dave:
>>
>>
>> At least someone is reading and paying attention ! Objective was to

>> make sure he didnt install a 20% tolerance. At no less than 5% he
>> sure could!
>>
>> Yes original was a +/- 5% tolerance. Good enough for a meter that
>> smallest graduations is 10ma and we arent too concerned about
>> precisely measuring 200 or 225 ma.
>>
>> I like to use 1% for meter multipliers as they are cheap.
>>
>> Kind of like back in the day when we built our Heathkit VOMs and
>> VTVMs. I actually built an RCA VOM first from a home correspondence
>> electronic course I took. It looked a lot like a Simpson 260 but then
>> I digress.
>>
>> Thanks
>> Terry K9TW.
>>
>>
>> ---In TS-520_820_530_830@yahoogroups.com, <dave.crooks@...> wrote :
>>
>> □
>> Terry,
>> "...make sure NO LESS than 5% tolerance."
>> ...make sure NO MORE than 5% tolerance.?
>> Cheers
>> Dave f4eyk
>
>

48283. Re: TS-530 Filter Installation

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-19 18:43:26 UTC
From: <asoto66@...>
Topic: 48231 Message: 48283

Yes. This is what I am shooting for and why i acquired both filters - CW normal at 1.8khz and 500Khz narrow and SSB 1.8khz narrow. I am planning to do it this weekend. I am glad the feedback indicates it should be relatively simple and thanks to all of you who replied. The biggest headache seem like it will just be carrying the beast downstairs to my shop.

On a separate note, as far as I can tell my TS-530 is working fine on all bands that i use (10-40, i don't use 60/80/160 so cannot comment).. As long as i have it out on the maintenance bench, is there any general maintenance that is worth doing? I am planning on cleaning some of the key contacts with deoxit and also the fan. Any other recommendations? I would like to do a check of key parameters to make sure everything is ok but not to the extent of pulling more boards, etc.. If it ain't broke, don't fix it.... but i would like to tackle anything preventative worth doing while i have the hood up.

btw, i will scan/search the forum for posts of this type to build a list of activities that seem worth doing, now or in the future, but any comments here are appreciated. for reference, I have a good quality dmm, general soldering and electronics tools, vom, vtvm, freq counter, but no o-scope.

Regards,
Al KJ3Q

48284. Re: [TS-520_820_530_830] Re: TS-530 Filter Installation

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-19 19:07:49 UTC
From: W2FID
Topic: 48231 Message: 48284

Al:
A good cleaning of any dust on the final and driver tubes does wonders for letting the tubes dissipate the heat they generate. Over time, heat can, and does kill radios.
Marshall
W2FID

From: "asoto66@..." <asoto66@...>
To: TS-520_820_530_830@yahoogroups.com
Sent: Wednesday, March 19, 2014 2:43 PM
Subject: [TS-520_820_530_830] Re: TS-530 Filter Installation

Yes. This is what I am shooting for and why i acquired both filters - CW normal at 1.8khz and 500Khz narrow and SSB 1.8khz narrow. I am planning to do it this weekend. I am glad the feedback indicates it should be relatively simple and thanks to all of you who replied. The biggest headache seem like it will just be carrying the beast downstairs to my shop.

On a separate note, as far as I can tell my TS-530 is working fine on all bands that i use (10-40, i don't use 60/80/160 so cannot comment).. As long as i have it out on the maintenance bench, is there any general maintenance that is worth doing? I am planning on cleaning some of the key contacts with deoxit and also the fan. Any other recommendations? I would like to do a check of key parameters to make sure everything is ok but not to the extent of pulling more boards, etc.. If it ain't broke, don't fix it.... but i would like to tackle anything preventative worth doing while i have the hood up.

btw, i will scan/search the forum for posts of this type to build a list of activities that seem worth doing, now or in the future, but any comments here are appreciated. for reference, I have a good quality dmm, general soldering and electronics tools, vom, vtvm, freq counter, but no o-scope.

Regards,
Al KJ3Q

48285. Re: [TS-520_820_530_830] Re: TS-530 Filter Installation

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-19 19:11:47 UTC
From: W2FID
Topic: 48231 Message: 48285

Al:
Just a reminder.....discharge before you pull the finals for cleaning.
Marshall
W2FID

From: "asoto66@..." <asoto66@...>
To: TS-520_820_530_830@yahoogroups.com
Sent: Wednesday, March 19, 2014 2:43 PM
Subject: [TS-520_820_530_830] Re: TS-530 Filter Installation

Yes. This is what I am shooting for and why i acquired both filters - CW normal at 1.8khz and 500Khz narrow and SSB 1.8khz narrow. I am planning to do it this weekend. I am glad the feedback indicates it should be relatively simple and thanks to all of you who replied. The biggest headache seem like it will just be carrying the beast downstairs to my shop.

On a separate note, as far as I can tell my TS-530 is working fine on all bands that i use (10-40, i don't use 60/80/160 so cannot comment).. As long as i have it out on the maintenance bench, is there any general maintenance that is worth doing? I am planning on cleaning some of the key contacts with deoxit and also the fan. Any other recommendations? I would like to do a check of key parameters to make sure everything is ok but not to the extent of pulling more boards, etc.. If it ain't broke, don't fix it.... but i would like to tackle anything preventative worth doing while i have the hood up.

btw, i will scan/search the forum for posts of this type to build a list of activities that seem worth doing, now or in the future, but any comments here are appreciated. for reference, I have a good quality dmm, general soldering and electronics tools, vom, vtvm, freq counter, but no o-scope.

Regards,
Al KJ3Q

48286. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-19 19:52:09 UTC
From: CROOKS David
Topic: 47979 Message: 48286

Mike,
Just for interest, -5% vs +10% for worst case 3.3k resistors, i.e. 15% difference.
Cheers
Dave f4eyk

48287. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-19 20:30:01 UTC
From: <wagstw46@...>
Topic: 47979 Message: 48287

Mike, Dave, Chris and others:

All I was trying to say is he had 3 choices to make when specing a replacement meter multiplier resistor. It may not have even entered his mind that he had those choices. May have simply reached for a commonly available 20% resistor that he had on hand? Of course we know that meter multiplier tolerance has absolutely no bearing on the meter pegging.

In addition to the correct ohmic value I wanted him to be aware he needs to select correct resistance tolerance and of course wattage rating. We know that if he installed a 470 ohm in lieu of a 3.3k ohm that is the reason for the pegged meter. Selecting a standard 20% resistor of course as I just mentioned has nothing to do with the pegged meter, but I still wouldnt install one in lieu of the original 5% tolerance resistor unless it meant the difference in getting on the air or not.

When it comes to metering circuits like cathode meter shunt resistors and meter multiplier resistors I would use nothing Greater than a 5% tolerance resistor as the KW design engineers speced. I have no problem going from carbon to metal film. Just would stay with original ohmic value, wattage, and resistance tolerance. Unless of course operating experience proves that the original design was flawed and we dont see much of that with KW hybrids.

Just the way I do business.

Terry K9TW

48288. Re: [TS-520_820_530_830] D-104 and Kenwood TS-520 - wiring (again)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-19 17:48:30 UTC
From: <lpleach@...>
Topic: 48031 Message: 48288

OMG! I think I got it working!!

I went over the wiring again to the mic and there's something wacky in the wiring I think. I used some other wiring and I'm now getting a response on the meter! Yes!!

I just have to get this all put together and I think I'm good to go!

Thanks a bunch for your patience and help!

Larry
KF5YZZ

48289. Re: RE Kenwood TS-820s Interface cable for CW

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-19 17:58:39 UTC
From: <lpleach@...>
Topic: 42691 Message: 48289

I'm also interested in this information. I believe that you can use a cable with a 1/4" phono plug and connect the sheilded cable and braided cable to the key.
I haven't found any pre-made cable for this. All of them now are for 8-pin or 10-pin.

Larry
KF5YZZ

48290. Re: [TS-520_820_530_830] D-104 and Kenwood TS-520 - wiring (again)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-19 21:55:46 UTC
From: Ken Winterling
Topic: 48031 Message: 48290

EXCELLENT!

Congratulations!

Ken
WA2LBI

On Wed, Mar 19, 2014 at 1:48 PM, <lpleach@...> wrote:

>
>
> OMG! I think I got it working!!
>
> I went over the wiring again to the mic and there's something wacky in the
> wiring I think. I used some other wiring and I'm now getting a response on
> the meter! Yes!!
>
> I just have to get this all put together and I think I'm good to go!
>
> Thanks a bunch for your patience and help!
>
> Larry
> KF5YZZ
>

48291. Boonton Connector Needed

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-20 00:55:46 UTC
From: <kevin_lemon@...>
Topic: 48291 Message: 48291

Hi All

Does anyone know of a source for the Boonton cable connector that connects to the meter.

Thanks
Kevin VE3RRH

48292. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-20 02:01:35 UTC
From: W5RKL
Topic: 47979 Message: 48292

I agree. I was just showing the differences using 5% verses using 10% tolerance resistors, nothing more.

73
Mike W5RKL

On 3/19/2014 3:30 PM, wagstw46@... wrote:
>
> Mike, Dave, Chris and others:
>
>
> All I was trying to say is he had 3 choices to make when specing a
> replacement meter multiplier resistor. It may not have even entered
> his mind that he had those choices. May have simply reached for a
> commonly available 20% resistor that he had on hand? Of course we know
> that meter multiplier tolerance has absolutely no bearing on the meter
> pegging.
>
> In addition to the correct ohmic value I wanted him to be aware he
> needs to select correct resistance tolerance and of course wattage
> rating. We know that if he installed a 470 ohm in lieu of a 3.3k ohm
> that is the reason for the pegged meter. Selecting a standard 20%
> resistor of course as I just mentioned has nothing to do with the
> pegged meter, but I still wouldnt install one in lieu of the original
> 5% tolerance resistor unless it meant the difference in getting on the
> air or not.
>
> When it comes to metering circuits like cathode meter shunt resistors
> and meter multiplier resistors I would use nothing Greater than a 5%
> tolerance resistor as the KW design engineers speced. I have no
> problem going from carbon to metal film. Just would stay with original
> ohmic value, wattage, and resistance tolerance. Unless of course
> operating experience proves that the original design was flawed and we
> dont see much of that with KW hybrids.
>
> Just the way I do business.
>
> Terry K9TW
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

48293. Re: [TS-520_820_530_830] Boonton Connector Needed

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-20 02:24:45 UTC
From: K5MYJ
Topic: 48291 Message: 48293

If you mean the two pin connector on a 92 RF millivoltmeter it is an Amphenol microphone connector.

http://www.ebay.com/itm/NOS-Amphenol-2-Pin-Male-Microphone-Connector-80-MC2M-Plug-/360870090314?pt=US_Radio_Comm_Microphones&hash=item540588964a

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"

----- Original Message -----
From: kevin_lemon@...
To: TS-520_820_530_830@yahoogroups.com
Sent: Wednesday, March 19, 2014 5:55 PM
Subject: [TS-520_820_530_830] Boonton Connector Needed

Hi All

Does anyone know of a source for the Boonton cable connector that connects to the meter.

Thanks
Kevin VE3RRH

48294. Re: [TS-520_820_530_830] D-104 and Kenwood TS-520 - wiring (again)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-20 03:15:25 UTC
From: Joseph Stiles
Topic: 48031 Message: 48294

Larry,

  Another case of "stick-to-it tivness" pays off.

God work

73 Joe
WB7UQU

On Wednesday, March 19, 2014 3:34 PM, "lpleach@..." <lpleach@...> wrote:

>OMG! I think I got it working!!
>
>I went over the wiring again to the mic and there's something wacky in the wiring I think. I used some other wiring and I'm now getting a response on the meter! Yes!!
>
>I just have to get this all put together and I think I'm good to go!
>
>Thanks a bunch for your patience and help!
>
>Larry
>KF5YZZ
>
>
>

48295. Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-20 12:22:06 UTC
From: <christopherlarwood@...>
Topic: 47979 Message: 48295

For all those following the progress and offer suggestions, a couple of further developments.
The 470 ohm resistor has now been replaced by the correct value 3.3k resistor. I think I got the 470 value from the coil on the PA board L2 470 uH, and resistor in the kit I purchased had a 470 ohm resistor. That combined with using the wrong range on the borrowed DMM to measure the same resistor on another 520s.
Anyhow, todays video clip shows the radio tuning up properly with acceptable readings (I believe) for plate & power output. I adjusted the plate idle current using the bias control to 60Ma as per manual.
I have taken measurements of the voltage of the SG Pin and the 2 x 10 ohm resistors and this also checks out at +262 volts. I didnt take a HV voltage measurement as the borrowed DMM is not rated high enough and the owner doesn't want it melted. On the front meter the HV sits about right at 900 volts.
https://www.youtube.com/watch?v=8shgMUZr5OI https://www.youtube.com/watch?v=8shgMUZr5OI
What is happening though is during the course of an extended SSB transmission, the plate current starts to creep up past the 60 Ma setting. After around 2 minutes of SSB TX with no modulation the Ma reading was creeping past 80 Ma and slowing moving upwards & upwards.
This is the initial fault I observed before the radio lost TX - I expect this is when the resistors failed first time around.
What do I need to look at , test or measure to address this?
I am reading all responses carefully and appreciate your input and kind assistance
VK5LTD

48296. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-20 12:52:34 UTC
From: Mike W5RKL
Topic: 47979 Message: 48296

Christopher,

The creeping up of the IP current quite possibly be caused by excessive gas in one of both of the final tubes.

I seem to recall you said you had a spare set of 6146Bs. I recommend you pull the suspected gassy 6146s and put the spare set of 6146Bs in and test. Yes you will have to check and, if necessary, neutralized the final but for testing on 40 or 20 meters, for now, you won't have to do that. You are only concerned to monitor the IP current as before to see if the IP current begins to creep up. If the spare set of 6146Bs are not gassy, I suspect the IP creeping up will stop.

I've had experience with this problem before in my HW-101. The final amplifier in the HW-101 is the same as in the KW hybrids, 6146 based Class AB1. The 6146As in the HW-101 were very gassy, sat in a garage for 20 years, and after a few minutes of transmitting, the PLATE current meter (same as IP meter in the KW hybrids), would start to creep up above the 50ma idling current and became unstable to the point that eventually pegging fully to the right and an arc occurred in the final tubes. The problem was caused by excessive gas in the final tubes. I replaced both final tubes with known good 6146As, problem solved.

73
Mike W5RKL

73
Mike W5RKL

On 3/20/2014 7:22 AM, christopherlarwood@... wrote:
>
> For all those following the progress and offer suggestions, a couple
> of further developments.
>
> The 470 ohm resistor has now been replaced by the correct value 3.3k
> resistor. I think I got the 470 value from the coil on the PA board
> L2 470 uH, and resistor in the kit I purchased had a 470 ohm
> resistor. That combined with using the wrong range on the borrowed
> DMM to measure the same resistor on another 520s.
>
> Anyhow, todays video clip shows the radio tuning up properly with
> acceptable readings (I believe) for plate & power output. I adjusted
> the plate idle current using the bias control to 60Ma as per manual.
>
> I have taken measurements of the voltage of the SG Pin and the 2 x 10
> ohm resistors and this also checks out at +262 volts. I didnt take a

> HV voltage measurement as the borrowed DMM is not rated high enough
> and the owner doesn't want it melted. On the front meter the HV sits
> about right at 900 volts.
>
> https://www.youtube.com/watch?v=8shgMUZr5OI
>
> What is happening though is during the course of an extended SSB
> transmission, the plate current starts to creep up past the 60 Ma
> setting. After around 2 minutes of SSB TX with no modulation the Ma
> reading was creeping past 80 Ma and slowing moving upwards & upwards.
> This is the initial fault I observed before the radio lost TX - I
> expect this is when the resistors failed first time around.
>
> What do I need to look at , test or measure to address this?
>
> I am reading all responses carefully and appreciate your input and
> kind assistance
>
> VK5LTD
>
>
>

48297. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-20 16:42:35 UTC
From: <paw_paw44036@...>
Topic: 47979 Message: 48297

Would it be possible for Chris to leave the radio on say for 24 hours with the filaments on and burn the gas out of the tubes??
Bill WD8OSJ

48298. Re: [TS-520_820_530_830] D-104 and Kenwood TS-520 - wiring (again)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-20 15:13:01 UTC
From: <lpleach@...>
Topic: 48031 Message: 48298

I tried it out last night and immediately got a response. Got a 5-9 report from central FL, and I'm in Arkansas.
I'm very excited to get this working after hitting every stumbling block on the way.
Thanks again!!!!

Larry
KF5YZZ

48299. Re: [TS-520_820_530_830] D-104 and Kenwood TS-520 - wiring (again)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-20 17:52:25 UTC
From: Ken Winterling
Topic: 48031 Message: 48299

Larry,

In addition to a working mic you also gained a bit of troubleshooting experience. I'll bet the NEXT mic will not take long to get going!

Congratulations, again!

Ken
WA2LBI

On Thu, Mar 20, 2014 at 11:13 AM, <lpleach@...> wrote:

>
>
> I tried it out last night and immediately got a response. Got a 5-9 report
> from central FL, and I'm in Arkansas.
> I'm very excited to get this working after hitting every stumbling block
> on the way.
> Thanks again!!!!
>
> Larry
> KF5YZZ
>

48300. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-20 18:31:01 UTC
From: Mike W5RKL
Topic: 47979 Message: 48300

Bill,

That would be up to Christopher if he wants to try that but I wouldn't recommend it.

I do not know of any extensive testing that has taken place using that method of filament power only for hours and hours to eliminate gas in low power transmitting and receiving tubes. There are plenty of hams who believe in this and will say it's a good idea but none of them have provided any factual proof from tube manufacture's that supports this, almost everything I have read is all "I do it and it works.." but how do they know it works? What further testing have they done that clearly shows this method works? If there is definitive proof from a tube manufacturer, I sure haven't seen it in the 47 years being a ham, 22 of those years was being a Radioman working in and around electronics.

Barium is used as the gas absorbing material in low power transmitting and receiving tubes. The shinny coating on the inside wall of the tube's glass envelope is the result of the "getter flash" that took place during the last phase of the tube's manufacturing. This "getter flash" occurs when the tube is vacuum pumped and sealed at the base, and the top for the top plate cap connection tubes. A high level RF generator operating in the 27Mhz and/or 40Mhz frequency range is passed over the tube. The RF generator is not held in one place but rather is moved otherwise the Barium ring, cup, or holder of the Barium would melt.

The RF generator system, when placed over the tube, acts like the primary of a transformer and the "getter element" acts as a shorted secondary. Heat is produce in the Getter element which causes the Barium to "vaporizes" (flash), absorbing any residue gas in the tube and depositing the vaporized Barium on the cool inside wall of the glass envelope, usually next to the getter element. The shinny coating continues to absorb gas but heat is require for this to occur and the filament simply cannot produce the level of heat required within the tube, 200 to 1200 degrees centigrade. Yes the filament gets very hot but that heat is not distributed evenly throughout the tube in order to heat the barium coating on the wall of the glass envelope to absorb gas. The tube has to conduct in order to produce the level of heat required and that can only occur when the tube is in operation, not sitting with only the filament glowing.

The lower power tubes such as the 6146 do not have a gas absorbing material coating the filament that some folks tend to believe. I suspect that is where the idea of running a 6146, for example, for 24 to 48 hours will absorb the gas. The only tubes I am aware of that have a gas absorbing material coating the filament is the Ceramic tubes such as the

4CX250 and other similar type tubes. The ceramic tubes have a required warm up period specified by the manufacturer (see the tube manual for each specific tube for details). This "warm up" period allows the gas absorbing filament to heat up and absorb any gas before the tube is place in operation. This warm up period is required every time the tube is being used.

Mercury Vapor Rectifier tubes such as the 866 and 3B28, are not the same. These tubes have a small amount of Mercury paced inside the tube itself during manufacturing. When the tubes are to be used, the filaments are power up for a short period of time, before HV applied. This is typically a minute or two. After the proper "warm up" period, HV is applied and the tube glow a pretty "Blue" color. The "blue" glow is the vaporized Mercury. When the tube is powered down and cools, the vaporized Mercury turns back into it's liquid state and the same "warm up" period is required the next time the tube is being used.

This is not the same for high power tubes such as the 4-400, 3-500Z, and others. Those tubes have a gas absorbing material coating the "Plate" which is typically Zirconium which also requires a high temperature to absorb gas in those tubes. The temperature range for Zirconium to absorb gas is approximately 1000 degrees centigrade. This typically occurs when the tube's plate turns a "dull red glow" during normal operation. One of the worse things an operator of a 3-500Z amplifier or other tube amps using these tubes, is to operate the amplifier without the dull red glow. Many hams I have spoken to and I mention the dull red glow, tell me they reduce drive so the plate no longer glows red. That's wrong, they should never do that.

73
Mike W5RKL

On 3/20/2014 11:42 AM, paw_paw44036@... wrote:
>
> Would it be possible for Chris to leave the radio on say for 24 hours
> with the filaments on and burn the gas out of the tubes??
>
> Bill WD8OSJ
>
>

48301. TS-820S: no power output but power burst on first PTT action

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-20 18:54:29 UTC
From: Jose V. Gavila
Topic: 48301 Message: 48301

Hi all,

I am dealing with a TS-820S with an unknown (to me) problem. It barely generates a couple watts on CW (and even less on SSB mode and none on TUNE). But there is some curious behaviour: when you press PTT on CW mode, there is a power burst around 120W (measured on peak mode with my LP-100A)

I have checked and all voltages, both on finals and friver tube are OK and keep as they should when PTT remains closed. But power then is about 2W. So I have checked from finals back to previous RF stages, and driver tube output also decreases, as does driver input. I mean, first burst (few miliseconds) is OK but then signal gets weaker.

Going backwards even more, I see that injecting a 30mV signal on RF UNIT TIF input gets about 50W output, so it seems that the problem is on IF unit, where TIF is generated.

I have cleaned and checked both relays, and they are fine.

Any hint regarding the cause of this problem?

Thanks and best regards,

JOSE

--
73 EB5AGV - JOSE V. GAVILA - La Canyada - Valencia (SPAIN)
http://agvradio.com AGVradio
http://jvgavila.com Personal WEB

48302. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-20 20:39:20 UTC
From: CROOKS David
Topic: 47979 Message: 48302

Mike,
Nice, clear description of "getting".

Way back, we were taught :
C
700 Dark red
800 Dull cherry-red
900 Cherry-red
1000 Bright cherry-red

I have no experience of high power tubes with glowing plates.

Do tube manufacturers ascociate bright cherry red or dull red with 1000C?

Dave f4eyk

48303. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-20 21:08:58 UTC
From: Mike W5RKL
Topic: 47979 Message: 48303

Dave,

I've never heard of the color verses temperatures you speak of.

For those members who would like more information about low power transmitting and receiving tube and high power transmitting tubes gettering/degassing with Barium and Zirconium, Tom, W8JI, has a website devoted to this subject (see the following link):

http://w8ji.com/vacuum_tubes_and_vaccum_tube_failures.htm

Scroll down to "Internal Anodes".

73
Mike W5RKL

On 3/20/2014 3:39 PM, CROOKS David wrote:
>
> Mike,
> Nice, clear description of "getting".
> Way back, we were taught :
> C
> 700Dark red
> 800 Dull cherry-red
> 900 Cherry-red
> 1000 Bright cherry-red
> I have no experience of high power tubes with glowing plates.
> Do tube manufacturers ascociate bright cherry red or dull red with 1000C?
> Dave f4eyk
>

48304. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-20 22:01:56 UTC
From: <wagstw46@...>
Topic: 47979 Message: 48304

Dave In the states we would use Color charts usually in degrees F for heat treating of steel. I believe Cherry red would be in the range of 1300 to 1400 degrees F. People who practice the black smith hobby are very familiar with using color to gauge steel temperature.

If I was to determine whether a high power transmitting tube anode should show any color I would first consult the manufacturers data sheet and then consult the forums to see what the consensus is for a particular tube.

Hams who run high power amplifiers with glass envelope tubes like 3-500Z learn from experience what normal color should be. Sometimes painful and expensive experience! Of course there are degrees of color for a given color like orange and you will read about full orange for a 3-500Z and some say it must show red for any gettering to occur. Tom W8JI has some good info on his website.

Terry K9TW

48305. Re: TS-820S: no power output but power burst on first PTT action

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-20 22:06:28 UTC
From: <wagstw46@...>
Topic: 48301 Message: 48305

Jose:

Did you try cleaning RL-1 aux relay contacts on the Relay unit board? (not the Ant TR relay). Same relays and can swap them.

Did you measure the ALC bus (rail) voltage at the IF board on Conn IF-3 on the AGL pin? Need to use a 11meg meter and should read approx 3vdc. If dirty contact on RL-1 then may have momentary ALC voltage applied to AGL terminal which would then momentarily turn on TIF amp Q1.

Terry K9TW

48306. Re: [TS-520_820_530_830] Re: TS-820S: no power output but power burst on first PTT action

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-20 22:52:34 UTC
From: Jose V. Gavila
Topic: 48301 Message: 48306

Hello Terry,

> Did you try cleaning RL-1 aux relay contacts on the Relay unit board?
> (not the Ant TR relay). Same relays and can swap them.

Yes, I have cleaned and checked it, and works fine.

> Did you measure the ALC bus (rail) voltage at the IF board on Conn IF-3
> on the AGL pin? Need to use a 11meg meter and should read approx 3vdc.
> If dirty contact on RL-1 then may have momentary ALC voltage applied to
> AGL terminal which would then momentarily turn on TIF amp Q1.

It measures, on CW and SSB, 2.8V on receive and 3.3V on transmit. Is
that OK?

Regards,

JOSE

--
73 EB5AGV - JOSE V. GAVILA - La Canyada - Valencia (SPAIN)
http://agvradio.com AGVradio
http://jvgavila.com Personal WEB

48307. Re: TS-820S: no power output but power burst on first PTT action

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-20 22:59:47 UTC
From: <wagstw46@...>
Topic: 48301 Message: 48307

Jose

I am sorry I did not read your post as carefully as I should have. You stated you cleaned both relays. Not sure how I missed that. Sometimes it takes multiple cleanings and swap of the relays.

For TIF output from the IF board most common problem is lack of RF-1 voltage at AGL. I would still confirm that you have approx 3 vdc at AGL.

If you do, then next most common would be no CAR level bias voltage available for the Balanced Modulator diodes. You can measure at CV pin at Conn IF-5 and also at TP-2 and vary the CAR LEVEL pot thru its range and should see 0 to 9vdc.

Terry K9TW

48308. Re: [TS-520_820_530_830] Re: TS-820S: no power output but power burst on first PTT action

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-20 23:11:01 UTC
From: Jose V. Gavila
Topic: 48301 Message: 48308

Hello Terry,

> I am sorry I did not read your post as carefully as I should have. You
> stated you cleaned both relays. Not sure how I missed that. Sometimes it
> takes multiple cleanings and swap of the relays.

OK, no problem. Yes, they are clean and work the same on both positions.

> For TIF output from the IF board most common problem is lack of RF-1
> voltage at AGL. I would still confirm that you have approx 3 vdc at AGL.

Yes, it is about that (2.8V on RX and 3.3V on TX)

> If you do, then next most common would be no CAR level bias voltage
> available for the Balanced Modulator diodes. You can measure at CV pin
> at Conn IF-5 and also at TP-2 and vary the CAR LEVEL pot thru its range
> and should see 0 to 9vdc.

We have something here!!!. On TP-2 I get only from 0 (CAR LEVEL at 0) to
0.5Vdc (CAR LEVEL at 10)

I will follow the schematics but... any further hint ;-)?

Thanks!

JOSE

--
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http://jvgavila.com Personal WEB

48309. Re: [TS-520_820_530_830] Re: TS-820S: no power output but power burst on first PTT action

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-20 23:11:28 UTC
From: <wagstw46@...>
Topic: 48301 Message: 48309

Yes that is OK.

After you verify you have CV voltage at TP-2 then I would measure the RF drive level at the Drain of Q18 buffer amp. This is the Double Side Band Suppressed Carrier DSBSC signal at output of the BM. It should be approx 200mv rms. Measure with O-scope or RF millivolt meter.

Terry K9TW

48310. Re: [TS-520_820_530_830] Re: TS-820S: no power output but power burst on first PTT action

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-20 23:24:25 UTC
From: Jose V. Gavila
Topic: 48301 Message: 48310

Hi again,

I am a bit confused about this:

...
> If you do, then next most common would be no CAR level bias voltage
> available for the Balanced Modulator diodes. You can measure at CV pin
> at Conn IF-5 and also at TP-2 and vary the CAR LEVEL pot thru its range
> and should see 0 to 9vdc.

At the CV pin, signal goes from 0 to 9Vdc, but at TP2 it goes from 0 to
0.5Vdc. So, should the signal at TP2 go also to 9Vdc?

Regards,

JOSE

--
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http://jvgavila.com Personal WEB

48311. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-21 00:18:50 UTC
From: <wagstw46@...>
Topic: 47979 Message: 48311

Mike: I have never heard of it taking any elevated temperature for the deposited barium on the glass envelope of a Flash gettered tube to oxidize any entrained gasses that may be leaching out of the tube over the tube operational life after that initial deposit from induction heating of the getter ring. It has always been my understanding that any time any gas leaches out of the materials it immediately reacts with the deposited barium and expends it and turns it white as the gasses are oxidized (barium oxide is formed).

None of the reading I have done say anything about need for elevated temperature to activate the barium that is deposited on the glass. It is there ready and waiting. All that was necessary for it to work at end of manufacturing process was to release it from inside the getter ring and deposit it on the cooler surface of the glass envelope which as you say is the purpose of the induction heating. The induction heating vaporizes the getter ring seal and releases the barium inside the tubular ring. At that time the released barium reacts with any gasses and water vapor not pulled out during evacuation and the remainder is left on the glass for continual reaction as new gases are released in operation or in storage. My understanding was the induction heater isnt used to heat the barium. It is used to release it from the getter tube which has either a thin metal shield or coating to contain the deposited barium or magnesium or what other exotic reactive metals used.

I believe that elevated temperatures in operation is what causes the entrained gasses in the metals and ceramic components to leach out at an accelerated manner where they can then react with the barium coating. If the tube is left on the shelf and never sees any operational temperature these gasses can very slowly leach out and will immediately react with the barium. If the pin seals go bad and there is air inleakage from the atmosphere the barium will be very quickly oxidized and the tube is ruined. No elevated temperatures involved here and the barium coating works quite nicely.

If it required high temperature for continued gettering action from the deposited barium how would you explain that barium coating turning white when air enters the envelope at room temperature?

Perhaps I am confused, but not how I understand how a flashed getter continues to function after being deposited by induction heating.

If I am correct I think this helps explain why people believe in "cooking" 6146 tubes with filaments on. It isnt to activate the barium getter material. It is to drive entrained gasses and moisture out of the tube internal materials so that they can be made available to react with the barium that is there for that purpose.

Now the question in my mind has always been does the filament alone produce enough heat to drive those adsorbed gasses out at any meaningful accelerated rate and if so how long would you have to "cook" with just filament to drive any gas out for the barium to react with? I am in the camp that typical cooking times employed with just the filament energized isnt done long enough to be meaningful.

Take a look at this You Tube video. f5m4ZOmbQ6Q

Terry K9TW

48312. Re: [TS-520_820_530_830] Re: TS-820S: no power output but power burst on first PTT action

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-21 00:25:53 UTC
From: <wagstw46@...>
Topic: 48301 Message: 48312

No there is a series dropping resistor of about 10k I believe in the CV lead to TP-2 so that variable 0 to 9vdc becomes approx 0 to 0.6vdc. If you are getting 0.50vdc at TP-2 that should be plenty of bias voltage to forward bias opposite pairs of diodes and get Carrier out of the BM.

You just need to use O-scope or RF millivolt meter and follow that DSBSC signal from output of Q18 to the switching diodes at input of your Crystal IF Filter, at output of the filter, Gate 1 of Q1, Drain of Q1,

48313. Re: [TS-520_820_530_830] Re: TS-820S: no power output but power burst on first PTT action

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-21 00:34:26 UTC
From: <wagstw46@...>
Topic: 48301 Message: 48313

Sorry I accidently hit Send!

After Drain of Q1 then look at TIF pin at Conn IF-3. May have a dirty Molex connector.

Remember TIF signal is low and will need good O-scope to measure it. No more than 250mv rms at output of Q1 and very low at input to RF board at approx 35mv rms. Also, at the input to the RF board TIF will not be clean on the O-scope. Will have harmonic content as you will see leak back from much stronger VCO signal. If your O scope has LP filter capability I would employ it for cleaner and more stable look.

Could be a bad IF Xtal Filter switching diode, but I would make sure you have 9vdc at Conn IF-2 on SSB and whatever other pins you need for the filters you have installed.

Terry K9TW

48314. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-21 00:08:43 UTC
From: <kb7um@...>
Topic: 47979 Message: 48314

Mike,
Actually, I believe the 6146 filament (Cathode) is coated with a barium/strontium oxide that is used in the generation of free electrons from the cathode. This coating does in fact getter at room temp, but that is BAD for emission. When the tube is run "filament on" the cathode degasses so the barium flash getter can absorb this gas. That is why "filament aging" is useful for older tubes. It helps "clean up" the filament (cathode) restoring some of the lost emission due to gas poisoning of the cathode. The flash getter will getter gas from room temperature up to several hundred degrees centigrade. Note that the tube envelope is a silicate glass which can only stand about 500 °C before it will go plastic and be sucked in by the vacuum. Even in ceramic tubes temperature above 900°C will cause the getters to degas. (At 2000°C, the entire tube will be a puddle on the chassis with the exception of any tungsten parts.) The big power tubes, both glass and ceramic use thoriated tungsten filaments as the cathode. These big power tubes run the filament at about 1700°C and are processed at temperatures up to 2200°C. The getter material in these high temp tubes is a zirconium coating on the plate. These tubes are big because the glass versions still cannot get the glass envelope above about 450°C or it will be sucked into the tube.

Bill KB7UM
An Old Vacuum Tube Engineer (RCA, Varian, GE,and Eimac)

48315. W00t! I have just scored. HP 425A Microvolt / MicroAmmeter. For $20.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-21 07:18:43 UTC
From: Wes Will
Topic: 48301 Message: 48315

Found it scavenging through the piles of cruft at the St. Louis "Gateway" electronics shop, while collecting some odd bits and pieces for other projects.

No, of COURSE it doesn't have the probe. But I -did- find the service manual on-line and there is a schematic of not only the meter, but the probe as well. I think I might even have the parts, or most of them, on hand, for the stock probe. (The 1000:1 divider I will have a job of work to get the bits for that, I suspect..... I'll certainly see, once I get into the manual a bit.)

And it even -works!! (As best I can tell!)

On the middle (NOT lower - didn't want to chance damaging it) ranges, I can make the needle deflect full scale by touching a meter probe gently inserted in the center conductor of the UHF (SO-239) connector and then touching the exposed probe tip. It came with a SO-239 to BNC adapter, but the probe is unfortunately not even for sale separately. (And believe me, I looked through ALL of his boxes of probes, and a spaghetti maze it was!)

It was sheer serendipity that I noticed it sitting on a shelf, as the store is expanding and the area where the surplus and junk equipment is stored is not even open to the public. Nobody was allowed back there, but I'm nosy and so I stuck my head around a partition anyway.

The owner was back there working on some shelving. I asked if he by any chance had a swept RF gennie in there somewhere ("No."), and just happened to spot this HP box sitting on a shelf not three meters in front of me. The store owner is an old friend/acquaintance (he recognizes me as a recurrent nightmare anyway), and so he was willing to haul it over so I could have a look at it.

I tried NOT to let him know that it was something of a real find, and must have been successful. To a tossed out, "How much?" he just said, "Twenty bucks." To an additional, "How much if it's not working?" he replied, "Twenty bucks, just like in town." and that dates BOTH of us as Aulde Phartes since I got the joke reference.

On closer inspection once I got it out into the light, there was a 1995 HP Calibrations Laboratory sticker, very faded, stuck on the bottom of this little beast.

So, now, here it sits on my bench, admittedly sans probe, but I have found and downloaded that service manual, and will be making a probe as soon as I might. I even hear there are silicon replacements for the vacuum tube diode that can be simply inserted into the tube socket to

eliminate one of the tubes, and I will be looking into that
modification. It all remains to be seen, and I'm looking forward to it.

--
Wes Will
N9KDY

48316. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-21 10:20:24 UTC
From: CROOKS David
Topic: 47979 Message: 48316

Terry,

My info comes from a heat-tratment background. These days it looks subjective in light of the available instrumentation.

My grandfather was involved with hardening steel and used a long splinter of wood to test temperature. The rate of sparking when drawn across the hot steel - along with the degree of steel redness - provided an indication of temperature. Don't try this at home!

I digress. Mike and Terry, thanks for the link.

Dave f4eyk

48317. Re: [TS-520_820_530_830] Re: TS-820S: no power output but power burst on first PTT action

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-21 11:27:31 UTC
From: Jose V. Gavila
Topic: 48301 Message: 48317

Hello Terry,

Thanks a lot for your detailed info. I have been following the signals as you suggested, being Q18 signal OK, and I was measuring around Q1 when a new problem has arised... The audio amplifier is self-oscillating at about 100kHz.

When I got the unit on the bench yesterday, there was a motorboating effect on audio. I resoldered the AF board, specially on the audio amp area and it went. But this morning, that effect is back. I have checked all the capacitors, replaced electrolytics, and checked all other passives around the AF amp, and they are OK. Also, pressing laterally over the audio PA heatsink, the amp starts working fine in some positions. I would say there is an internal problem on the TA7201P, as soldering is perfect and it keeps failing that way. So I will source a replacement for it and, by now, stop troubleshooting TX, as when it self-oscillates, there is some effect on 12V rail which affects other circuits even on TX.

I will be back as soon as I get a replacement.

Thanks and best regards,

JOSE

El 21/03/2014 1:34, wagstw46@... escribió:
>
>
> Sorry I accidently hit Send!
>
> After Drain of Q1 then look at TIF pin at Conn IF-3. May have a dirty
> Molex connector.
>
> Remember TIF signal is low and will need good O-scope to measure it. No
> more than 250mv rms at output of Q1 and very low at input to RF board at
> approx 35mv rms. Also, at the input to the RF board TIF will not be
> clean on the O-scope. Will have harmonic content as you will see leak
> back from much stronger VCO signal. If your O scope has LP filter
> capability I would employ it for cleaner and more stable look.
>
> Could be a bad IF Xtal Filter switching diode, but I would make sure you
> have 9vdc at Conn IF-2 on SSB and whatever other pins you need for the
> filters you have installed.
>
> Terry K9TW

--
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http://jvgavila.com Personal WEB

48318. Re: [TS-520_820_530_830] Re: TS-820S: no power output but power burst on first PTT action

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-21 11:45:51 UTC
From: <wagstw46@...>
Topic: 48301 Message: 48318

OK Jose:

You sure did not need that complication. Good Lord willing I will still be here when you are ready and be glad to help if I can. I also have a fully functioning TS820S here with covers off and can take measurements if you need that kind of help.

73s
Terry K9TW

48319. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-21 12:17:36 UTC
From: <wagstw46@...>
Topic: 47979 Message: 48319

Dave

I have a little background growing up in old Fossil power plants where there were real craftsmen and all kinds of heat treating, stress relieving, tempering, annealing was performed frequently. I learned how to pour babbitt bearings and blue and scrape them and lots of things that today would be considered lost art. I eventually ran the Electrical repair shop and we did all the induction stress relieving for the Welders.

Been many years since I thought about colors. Back then we had no infra-red pyrometers or even a contact pyrometer. Temp paint sticks didnt exist. When stress relieving we would make thermocouples and read the millivolt voltage and look up temp in conversion charts. Had to use ice baths for a reference. Very primitive by todays technology.

73s
Terry K9TW

48320. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-21 12:50:53 UTC
From: <wagstw46@...>
Topic: 47979 Message: 48320

Bill Thanks for sharing this with us. I was hoping tube engineers and chemistry majors would come out of the woodwork!

Just dont want folks to confuse flashed getter with oxide coated cathode and the function of each. Even though they both have barium in common.

I had forgot about the use of "emission paste" (I think barium and strontium carbonate?) to coat the cathodes. I understand the need to improve electron emission.

Been long time since read about activating or aging the of the cathode. There is also need to rid the adjacent support elements near the cathode of residual gasses as well. I guess this aspect isnt technically really part of activation, but goes hand in hand. We dont want these gasses to poison the cathode.

A question: During activation or aging process after pump down are these barium oxide/carbonate compounds actually converted to pure barium? I assume that is what is going on?

Very interesting subject and sure wish we had a You Tube video showing and explaining the manufacturing of a 6146B tube. I have tried to find manufacturing info for the 6146 and have only come up with operational data sheets and very little on the actual design and manufacturing process.

Thanks
Terry K9TW

48321. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-21 14:37:13 UTC
From: <wagstw46@...>
Topic: 47979 Message: 48321

Bill:

One more thing that bemuses me. No mystifies me! Maybe you can explain.

If the barium coating on the envelope remains active for many years and is active at room temperature, Why can a supposed spare NOS 6146 tube that has set on the shelf for 30 years arc over when placed in service? If the tube is sitting there off gassing why wouldnt the barium react with the gasses as they are being released thus no gas in the envelope to ionize and support an arc on initial power on.

I guess another possible source of an arc would be conductive foreign material in the envelope like a metal wisker or wire tail in the gap between elements. I hear this may be one of the problems with Chinese 6146 tubes but no direct knowledge of that.

When I watch old vacuum tube manufacturing videos I see "white glove" assembly areas so I would think foreign material entry would be rare? Even if foreign material is a possible cause for an arc over is it likely would have more than one event per tube from this cause?

I have had more than one experience with 6146 arc over events and from dc Hi-pot testing I know they have different hold off levels. Some as low as 1000vdc and will arc over. So while I agree that barium is very reactive at room temperature I do not understand how there can be any gas resident in the tube unless the barium has reached end of its useful life after 30 plus years?

Terry K9TW

48322. Re: IP & tune when in tune

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-21 14:42:09 UTC
From: <hpdd709@...>
Topic: 48322 Message: 48322

I have a TS-830 that works great, 100 watts on all bands, Super receiver. Love the radio. Need some help. I can't get an IP readiing when in the TUNE position.
I can read ALC, RF COMP AND HV, BUT NOT IP. In the CW position, I can read ALC, RF, COMP, HV AND INCLUDING IP. I can't see anything out of place, unless the Mode multi switch is defective and upon inspection is operational. I can get excellent plate current dips when at resonance.

Any help is appreciated.
Enjoy the hobby as I do and the operators.
73,
Mike/K3MG

48323. Re: [TS-520_820_530_830] Re: IP & tune when in tune

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-21 16:06:08 UTC
From: John Davidson
Topic: 48322 Message: 48323

No IP in tune sounds like one of the volatage divider resistors going to the tune switch contacts or screen voltage supply are bad. Check resistor values in this circuit. Measure screen pins voltage on final tube sockets when in CW and Tune positions in transmit mode. (BE CAREFUL,)

On Friday, March 21, 2014 10:42 AM, "hpdd709@..." <hpdd709@...> wrote:

I have a TS-830 that works great, 100 watts on all bands, Super receiver. Love the radio. Need some help. I can't get an IP readiing when in the TUNE position.
I can read ALC, RF COMP AND HV, BUT NOT IP. In the CW position, I can read ALC, RF, COMP, HV AND INCLUDING IP. I can't see anything out of place, unless the Mode multi switch is defective and upon inspection is operational. I can get excellent plate current dips when at resonance.

Any help is appreciated.
Enjoy the hobby as I do and the operators.
73,
Mike/K3MG

48324. Re: [TS-520_820_530_830] Re: tube getter 6e5

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-21 16:49:19 UTC
From: CROOKS David
Topic: 48324 Message: 48324

Terry
I just observed the internal color of the gettered area of a 60y old tube - silver , broke open the stem then looked for color change at room temperature.

The silvered area reduced by half and is sill reducing! The color became black.(not white)

I conclude that the 'silver' film remains active, quietly doing it's job over a lifetime.

As I'm typing, the 'silver' has vanished!

Dave f4eyk

48325. Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-21 14:05:57 UTC
From: <christopherlarwood@...>
Topic: 47979 Message: 48325

While tube theory is being discussed, why would tubes become gassy? Mike thought this was a possible cause to my plate current creeping upwards. The radio has been used for some hours most weeks of the last year so can't imagine why they might be gassy. The radio has not been dormant! I will do a swap out to the spares which are s2001s, but I have no history or age to the spares, they came with the radio. I'll continue to do all these tests, measurements and suggestions as it's building my personal knowledge and one day I might be able to pass on some help to a younger operator.
If the tube swap test doesn't change what's happening, what next to check? It's got to be power output, tx side of the radio so that narrows it down
Regards
Vk5ltd

48326. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-21 16:39:35 UTC
From: <kb7um@...>
Topic: 47979 Message: 48326

Terry,

When a tube sets on the shelf for long periods of time (years), the tube gases up. Getters are not 100% efficient and the efficiency varies with the type of gas. One of the worst gases is water vapor. It sticks to everything and is VERY difficult to pump out. Glass and metal are pervious to gases, especially hydrogen and helium. This gas sticks to the cold internal surfaces of the tubes envelope and internal components. This gas sticks to the first cold surface it hits These gas atoms and molecules do not simply float around -- they stick to surfaces. It sticks to the barium in the porous cathode coating. If we have a vacuum gage attached to the tube, we would see a good vacuum. But when the tube it lit, there is a tremendous burst of gas and if the HV is present--instant ARC!! When an old NOS tube is put into service, it should be filament aged for an hour or more to allow all tube components to heat up and degas so the getter can clean it up.

Bill KB7UM

48327. Re: [TS-520_820_530_830] Re: IP & tune when in tune

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-21 17:10:20 UTC
From: Joseph Stiles
Topic: 48322 Message: 48327

Mike,

This is common problem...so you are not alone. The MOST likely cause is resistors 15 & 16 on the rectifier board are way out of value. They reduce voltage to final amplifier tubes when mode switch is in the "tune" position...thus helping prevent the tubes from getting full voltage when in an out of tune state....that's bad for the final amp tubes. They are difficult to check properly in circuit. Suggest that you obtain suitable replacements....same value and wattage...metal film...is a good replacement....remove said resistors...and check value...bet they are way out of value.
You can go to the home page of this group and search for "no Ip in tune." you will get maybe 500 or so results. Lots of Kw hybrids suffer from this problem...it just a bit different resistor identification that's different

73 Joe
WB7UQU

On Friday, March 21, 2014 9:51 AM, John Davidson <k8jd@...> wrote:

>No IP in tune sounds like one of the volatage divider resistors going to the tune switch contacts or screen voltage supply are bad. Check resistor values in this circuit. Measure screen pins voltage on final tube sockets when in CW and Tune positions in transmit mode. (BE CAREFUL,)
>
>
>
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>
>
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>Need some help. I can't get an IP readiing when in the TUNE position.
>I can read ALC, RF COMP AND HV, BUT NOT IP. In the CW position, I can read ALC, RF, COMP, HV AND INCLUDING IP. I can't see anything out of place, unless the Mode multi switch is defective and upon inspection is operational. I can get excellent plate current dips when at resonance.
>
>Any help is appreciated.
>Enjoy the hobby as I do and the operators.
>73,
>Mike/K3MG
>
>
>
>
>

48328. Michael Sylvester's recent post

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-21 17:24:09 UTC
From: Joseph Stiles
Topic: 48328 Message: 48328

Greetings Group,

My apologies for this post showing up in the groups msg area. This persons membership in this group was terminated some time ago for continued violation of this groups very basic and simple rules. He has found some way of circumvention.

PLEASE NOTE: Any member of this group that receives, and then forwards/posts ANY email/msg...or ANYTHING involving Mr. Michael Sylvester-KD0WSJ will have THEIR membership/participation in this group terminated as well.

Thanks for your attention to this matter...we now return to our regular program.

73 Joe
WB7UQU
TS-520_820_530_830 Yahoo! group Co-owner

48329. Re: [TS-520_820_530_830] Re: tube getter 6e5

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-21 17:38:06 UTC
From: <wagstw46@...>
Topic: 48324 Message: 48329

Dave:

Very interesting. Some might gasp at the sacrifice of a 60 year old tube for a science experiment!

I wonder if the getter in this vintage tube is some other volatile earth alkaline element than Barium or combination of reactive materials. Perhaps magnesium. Hard to say what they used back then. Might account for the turning black as opposed to white when acting on air ingress?

I am still struggling in my mind if the flashed getter coating is volatile at room temperature, how can an old tube be gassy in service or after being in storage for many years. Why wouldnt the getter continually and immediately adsorb this gas as it is formed in the envelope either from leaching out of the metals and insulating materials or from slow ingress around the pins and glass seals. How can any gas accumulate if active getter coating remains?

The reason I believe the tubes are gassy is I have used NOS 6146 finals that arced over shortly after energizing them. I also have seen gassy tubes affect control grid bias. That would seem to indicate the flash getter has been expended and is not adsorbing these gasses. I am assuming the 6146 arc over was from gas and not from foreign material such as a wire "whisker" in the gap. I have to assume RCA, GE and others used "white glove" assembly procedures?

I think we will never completely understand the real science here and will always be folks on both sides of this "Cooking" debate. In my mind you would have to Cook for a very long time to drive any significant amount of entrained gasses out of the metals and insulating materials where the barium flash coating could act upon them. However, I have had some 6146 tubes that will not hold off 1000vdc dc hi-pot applied between the anode and cathode and after Cooking with filament voltage only will see some decent increase in the withstand voltage. Not always but quite often. I do not understand why this occurs. Unless as the getter material ages elevated envelope temperatures do make it more reactive?

While this is very interesting subject I think I am going to move on now. My answer regards to Cook or not Cook a 6146 tube can be seen in the arc over protection mods I have installed in my radios. One thing it would seem Cooking cant hurt other than expending some emission life.

Thanks for sharing.

73s
Terry K9TW

48330. Re: [TS-520_820_530_830] Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-21 17:59:56 UTC
From: <wagstw46@...>
Topic: 47979 Message: 48330

Bill:

Never heard or read about the off gassing clinging to the metals and insulators from where it emerges.

I had assumed the gasses just came out of "suspension" and were dispersed through out the envelope where the barium could react with it. Never thought of gasses clinging to surfaces. Water vapor leaching out makes more sense to cling or coat a surface.

So heat then may well help disperse gas where flash getter coating can act on it. That helps explain why gas can accumulate and not get adsorbed by the flash getter that we do know remains active as we have seen when mass amount of air is emitted into the envelope in a short amount of time essentially pressurizing a space that was a vacuum.

So this clinging gas could be in the path of electrons and be impacted and form positive ions and cause problems we see with tube bias.

Wouldnt it be interesting to watch the surface of an tube element under electron microscope and see this molecule of gas emerge from the metal surface and see what it does. I guess I thought with a 10 to the minus 10 atmosphere tugging on it I would have thought it would have breached the surface and rocketed off into the ether to be devoured by the hungry barium coating!

Very interesting.

Terry K9TW

48331. Re: Michael Sylvester's recent post

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-21 18:14:33 UTC
From: <wagstw46@...>
Topic: 48328 Message: 48331

Joe :

I dont recall seeing it. Can you share off list what it was to help me recognize it. Hate to lose membership because I was duped.

I am not sure which would be worse to lose my membership or to be duped by him. I tried to give him some fatherly advice off the reflector and very quickly became apparent I did not have the professional training that was needed to help him.

Terry K9TW

48332. Re: W00t! I have just scored. HP 425A Microvolt / MicroAmmeter. For $20.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-21 19:41:13 UTC
From: <wagstw46@...>
Topic: 48301 Message: 48332

Will

Not to burst your bubble and I could be wrong but dont think this is going to be much help servicing your KW hybrids. This is a DC microvolt and microamp meter. It will read very low dc uv and ua levels. It is not for measuring RF drive levels.

Some applications in your hybrid would be to measure the grid current in the FG line on positive peak of the rf drive envelope (approx 45 ua max). That is more of an academic exercise and can do it with a good DMM by just measuring the IR drop across 10k series resistor in the ALC circuit.

Could measure actual ua current flowing in your panel meter.

Could also use it as a milli-ohm meter with external battery to measure relay contact resistance.

Could be used in pipe line work to measure cathodic protection. Maybe to test your station grounds?

As I say I may be mistaken and would have to look at the manual. I believe it has a sychronous motor and lamp bulbs that work as a chopper that feeds a differential amp so combination of tube circuitry and some mechanical components.

Might post on the Yahoo HP reflector and ask who has one and how do they use it for electronic service work. Price was certainly right and will be fun to get it working.

I have a Simpson 2795 that has dc uv and ua ranges. Lowest range is 1uv and 1ua full scale! Dont use it often but nice to have if needed. I have lifted the FG lead and placed it in series and looked at 6146 grid current at full ALC deflection, but found measuring IR drop across the 10k resistor with DMM at about 0.40vdc is much easier. 0.40/10,000= 0.000040 or 40ua.

Terry K9TW.

48333. Re: [TS-520_820_530_830] Boonton Connector Needed

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-22 02:20:43 UTC
From: <kevin_lemon@...>
Topic: 48291 Message: 48333

Hi Bob
Thanks for the reply, unfortunately that item you listed had sold.
But I found others after you gave me the part number.
Here is another listing, from a Ham Operator and he has reasonable shipping rates.
Item 360475796509.
I liked his prices so much I bought 2.

Thanks
Kevin VE3RRH

48334. Re: [TS-520_820_530_830] Re: TS-820S: no power output but power burst on first PTT action

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-22 01:44:33 UTC
From: <hdarfler@...>
Topic: 48301 Message: 48334

How do I get off your yahoo groups lists. I never signed up for this list and have no interest in any of this

Thanks,
Holly
---- wagstw46@... wrote:
> Sorry I accidently hit Send!
>
> After Drain of Q1 then look at TIF pin at Conn IF-3. May have a dirty Molex connector.
>
>
> Remember TIF signal is low and will need good O-scope to measure it. No more than 250mv rms at output of Q1 and very low at input to RF board at approx 35mv rms. Also, at the input to the RF board TIF will not be clean on the O-scope. Will have harmonic content as you will see leak back from much stronger VCO signal. If your O scope has LP filter capability I would employ it for cleaner and more stable look.
>
>
> Could be a bad IF Xtal Filter switching diode, but I would make sure you have 9vdc at Conn IF-2 on SSB and whatever other pins you need for the filters you have installed.
>
>
> Terry K9TW

48335. Re: [TS-520_820_530_830] Re: TS-820S: no power output but power burst on first PTT action

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-22 02:40:56 UTC
From: W5RKL
Topic: 48301 Message: 48335

Holly,

Look at the bottom right corner of the message, there's a link that
says, "Unsubscribe". Click that link and follow the prompts.

73
Mike W5RKL
Yahoo Kenwood TS_520_820_530_830 Group Moderator

On 3/21/2014 8:44 PM, hdarfler@... wrote:
>
> How do I get off your yahoo groups lists. I never signed up for this
> list and have no interest in any of this
>
> Thanks,
> Holly
> ---- wagstw46@... wrote:
> > Sorry I accidently hit Send!
> >
> > After Drain of Q1 then look at TIF pin at Conn IF-3. May have a
> dirty Molex connector.
> >
> >
> > Remember TIF signal is low and will need good O-scope to measure it.
> No more than 250mv rms at output of Q1 and very low at input to RF
> board at approx 35mv rms. Also, at the input to the RF board TIF will
> not be clean on the O-scope. Will have harmonic content as you will
> see leak back from much stronger VCO signal. If your O scope has LP
> filter capability I would employ it for cleaner and more stable look.
> >
> >
> > Could be a bad IF Xtal Filter switching diode, but I would make sure
> you have 9vdc at Conn IF-2 on SSB and whatever other pins you need for
> the filters you have installed.
> >
> >
> > Terry K9TW
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

48336. Re: [TS-520_820_530_830] Re: TS-820S: no power output but power burst on first PTT action

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-22 03:46:24 UTC
From: Wes Will
Topic: 48301 Message: 48336

On 03/21/2014 09:40 PM, W5RKL wrote:
>> How do I get off your yahoo groups lists. I never signed up for this
>> list and have no interest in any of this

Terry,

THIS would be your first clue (says the forensics classes I took for my Master's in Information Security) as to how the list was breached and Monsieur Sylvester managed to get back in here.

Which, by the way kiddies, is a FELONY in the United States, using someone else's accounts without their permission or knowledge. (The Yahoo people might like to know about his shenanigans and re-entry here, despite being once removed.)

Same goes for stealing internet from your neighbours, by the way. (Even if they are too stupid to put a bleedin' password and encryption on their piece-of-junk wireless router.)

--
Wes Will
SysAdmin
BS IndEngr
MS IT/InfoSec
N9KDY
And even -more- alphabet soup; more than is good for anyone.

48337. Re: Loses drive after warm up

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-22 20:27:45 UTC
From: <wontgoquietly@...>
Topic: 47926 Message: 48337

Terry:
Sorry for the long delay. Spent a week in AZ and then another week catching up at work.
Took some measurements today on the TS-820 with the VTVM and VOM.

I assume you meant pin 3 on RF-3, not RF-1. Pin 3 measures 1.7 v on the VOM
Pin 6 on RF-3 measures 0.7 on the VOM as did Pin 6 on IF-3.
Measured MD-1 with the VTVM and saw about 1.0 v, but I really can't vouch for the accuracy of the VTVM. I borrowed it and should probably see about running through the calibration.

Tim
NT9M
LaGramge. IN

48338. Re: Loses drive after warm up

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-23 00:00:35 UTC
From: <wagstw46@...>
Topic: 47926 Message: 48338

Well Tim I have slept since then! So not exactly sure where we left off.

I think I was wanting you to measure the RF-1 reference or dc control voltage at the RF board to make sure it was at approx 3.3 vdc and not slowly drifting down under key down or changing after the warm up period. If RF-1 voltage is drifting down then ALC bus voltage will drift down and RF drive from TIF amp will drift down. Very seldom have a problem with RF-1 drifting. If it does need to monitor 9vdc regulated to make sure it isnt drifting down. If 9vdc regulated is solid and RF-1 is drifting I would clean its voltage adjust trim pot VR-1 on the AF-AVR board and reset to approx 3.3vdc. .

Maybe I confused you and made you think that RF-1 is a molex connector? It is a key dc control voltage that feeds the AGC and ALC busses. RF-1 supplies the ALC bus thru a 2.2meg resistor making it a high Z power supply. As I said it is derived from the 9vdc regulated on the AVR board. It should be approx 3.3vdc and can be measured with a either a VOM or VTVM or DMM. Does not have to be a high Z meter. However, must use a high Z meter to measure either AGC or ALC bus.

If RF-1 reference or control voltage is good at RF-3 connector Pin 4 then move on to the ALC bus voltage which leaves on RF-3 connector Pin 6. You cannot measure it with a VOM as it is a very high Z power supply by design and a VOM will pull it down significantly. Even a 11meg VTVM will pull down the 3.3vdc to around 2.6vdc.

If you have approx 2.6vdc ALC bus voltage (as measured by a 11meg meter) leaving RF-3 connector then I wanted you to see if the IF board was seeing this same ALC bus voltage. It arrives there from the RL-1 aux relay contacts on the AGL line. So wanted you to measure AGL at IF board on Conn IF-3 at Pin 6. Should see the same approx 2.6vdc that you had at ALC bus leaving the RF board. If AGL is powered then your Meter FET Q4 should see it and TIF amp Q1 should see it and should get good RF drive from the IF board to the RF board.

I am not sure about MD-1? If you mean you are trying to measure the RF drive at MD on RF board you need to use a RF probe and VTVM and not just a VTVM. Should see approx 2rms rf volts of drive at output of the TX Mixer. Are you trying to watch MD and see if the RF drive voltage slowly falls off under key down?

You should look at the schematic and see if I am calling out the correct molex connectors and associated pins.Helps you learn and keeps me honest.

Terry K9TW

48339. Re: [TS-520_820_530_830] Re: TS-820S: no power output but power burst on first PTT action

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-23 00:35:29 UTC
From: David King
Topic: 48301 Message: 48339

Holly...go to the bottom of the page. Look for "Unsubscribe"

David
WY7DK

hdarfler@nycap.rr.com wrote:

>
>
>How do I get off your yahoo groups lists. I never signed up for this list and have no interest in any of this
>
>Thanks,
>Holly
>---- wagstw46@yahoo.com wrote:
>> Sorry I accidently hit Send!
>>
>> After Drain of Q1 then look at TIF pin at Conn IF-3. May have a dirty Molex connector.
>>
>>
>> Remember TIF signal is low and will need good O-scope to measure it. No more than 250mv rms at output of Q1 and very low at input to RF board at approx 35mv rms. Also, at the input to the RF board TIF will not be clean on the O-scope. Will have harmonic content as you will see leak back from much stronger VCO signal. If your O scope has LP filter capability I would employ it for cleaner and more stable look.
>>
>>
>> Could be a bad IF Xtal Filter switching diode, but I would make sure you have 9vdc at Conn IF-2 on SSB and whatever other pins you need for the filters you have installed.
>>
>>
>> Terry K9TW
>
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>
><!-- #ygrp-mkp { border: 1px solid #d8d8d8; font-family: Arial; margin: 10px 0; padding: 0 10px; } #ygrp-mkp hr { border: 1px solid #d8d8d8; } #ygrp-mkp #hd { color: #628c2a; font-size: 85%; font-weight: 700; line-height: 122%; margin: 10px 0; } #ygrp-mkp #ads { margin-bottom: 10px; } #ygrp-mkp .ad { padding: 0 0; } #ygrp-mkp .ad p { margin: 0; } #ygrp-mkp .ad a { color: #0000ff; text-decoration: none; } #ygrp-sponsor #ygrp-lc { font-family: Arial; } #ygrp-sponsor #ygrp-lc #hd { margin: 10px 0px; font-weight: 700; font-size: 78%; line-height: 122%; } #ygrp-sponsor #ygrp-lc .ad { margin-bottom: 10px; padding: 0 0; } #actions { font-family: Verdana; font-size: 11px; padding: 10px 0; } #activity { background-color: #e0ecee; float: left; font-family: Verdana; font-size: 10px;

padding: 10px; } #activity span { font-weight: 700; } #activity span:first-child { text-transform: uppercase; } #activity span a { color: #5085b6; text-decoration: none; } #activity span span { color: #ff7900; } #activity span .underline { text-decoration: underline; } .attach { clear: both; display: table; font-family: Arial; font-size: 12px; padding: 10px 0; width: 400px; } .attach div a { text-decoration: none; } .attach img { border: none; padding-right: 5px; } .attach label { display: block; margin-bottom: 5px; } .attach label a { text-decoration: none; } blockquote { margin: 0 0 0 4px; } .bold { font-family: Arial; font-size: 13px; font-weight: 700; } .bold a { text-decoration: none; } dd.last p a { font-family: Verdana; font-weight: 700; } dd.last p span { margin-right: 10px; font-family: Verdana; font-weight: 700; } dd.last p span.yshortcuts { margin-right: 0; } div.attach-table div div a { text-decoration: none; } div.attach-table { width: 400px; } div.file-title a, div.file-title a:active, div.file-title a:hover, div.file-title a:visited { text-decoration: none; } div.photo-title a, div.photo-title a:active, div.photo-title a:hover, div.photo-title a:visited { text-decoration: none; } div#ygrp-mlmsg #ygrp-msg p a span.yshortcuts { font-family: Verdana; font-size: 10px; font-weight: normal; } .green { color: #628c2a; } .MsoNormal { margin: 0 0 0 0; } o { font-size: 0; } #photos div { float: left; width: 72px; } #photos div div { border: 1px solid #666666; height: 62px; overflow: hidden; width: 62px; } #photos div label { color: #666666; font-size: 10px; overflow: hidden; text-align: center; white-space: nowrap; width: 64px; } #reco-category { font-size: 77%; } #reco-desc { font-size: 77%; } .replbq { margin: 4px; } #ygrp-actbar div a:first-child { /* border-right: 0px solid #000;*/ margin-right: 2px; padding-right: 5px; } #ygrp-mlmsg { font-size: 13px; font-family: Arial, helvetica,clean, sans-serif; *font-size: small; *font: x-small; } #ygrp-mlmsg table { font-size: inherit; font: 100%; } #ygrp-mlmsg select, input, textarea { font: 99% Arial, Helvetica, clean, sans-serif; } #ygrp-mlmsg pre, code { font:115% monospace; *font-size:100%; } #ygrp-mlmsg * { line-height: 1.22em; } #ygrp-mlmsg #logo { padding-bottom: 10px; } #ygrp-msg p a { font-family: Verdana; } #ygrp-msg p#attach-count span { color: #1E66AE; font-weight: 700; } #ygrp-reco #reco-head { color: #ff7900; font-weight: 700; } #ygrp-reco { margin-bottom: 20px; padding: 0px; } #ygrp-sponsor #ov li a { font-size: 130%; text-decoration: none; } #ygrp-sponsor #ov li { font-size: 77%; list-style-type: square; padding: 6px 0; } #ygrp-sponsor #ov ul { margin: 0; padding: 0 0 0 8px; } #ygrp-text { font-family: Georgia; } #ygrp-text p { margin: 0 0 1em 0; } #ygrp-text tt { font-size: 120%; } #ygrp-vital ul li:last-child { border-right: none !important; } -->

48340. DDS VFO update

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-23 02:35:01 UTC
From: <cocobean64@...>
Topic: 48340 Message: 48340

Posted a couple of new pics in the album section... Added Rx Tx indicator, changed background color / button color for better viewing contrast, cleaned up the text.

7' screen is coming on Monday, will be adding "mem" buttons and a small external usb keypad for direct entry of a frequency. Should be enough real estate on the display to include perhaps a power/swr readout (bar-graph?).
I've got an extra WaveNode module, so i'll give that a try.
Since the first build has proven itself on the 530, this one is going on the 830.

73
Bart

48341. Re: [TS-520_820_530_830] DDS VFO update

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-23 04:05:14 UTC
From: Wes Will
Topic: 48340 Message: 48341

On 03/22/2014 09:35 PM, cocobean64@... wrote:

> 7' screen is coming on Monday,

A Seven-Foot screen? On a VFO? Wow! Does this thing get cable?

(' = feet)
(" = inches)

--
Wes Will
N9KDY

48342. Re: Loses drive after warm up

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-23 11:16:10 UTC
From: <wagstw46@...>
Topic: 47926 Message: 48342

Tim:

I think I need to restate the problem statement and have you confirm if I understand the problem.

1. When you load the rig from a cold power on in Tune mode you can get good ALC indication with the Car Level pot advanced and the Drive control peaked.

2. You also can then go on to load rig to normal RF output power as indicated on either the RF relative power position of the rigs panel meter or on an external wattmeter.

3. After the rig warms up RF output power drops to zero or drops to some lower level (lower than approx 100 watts output) and when you attempt in Tune mode to reload there is no ALC indication on any band. If the RF output power drops to zero you should be able to get ALC indication. If you are trying to look at ALC indication with 200ma of plate current indicated my first question would be where in the manual does it tell you to do that? Secondly, it is normal that you may have no ALC indication with decent amount of plate current. You should however be able to see ALC peaks in SSB mode when modulating the rig. Just may not see any if key down in CW mode at 200ma. This has to do with RF negative feedback that is employed and too many keystrokes to explain here.

4. Last year you installed "new" Driver tube and final tubes.

IS MY UNDERSTANDING CORRECT? If not, please clarify or amplify.

Have you tried a 2nd "new" Driver tube since you had this problem? Typically rf drive and rf output does not just instantly occur on all bands if Driver tube is getting weak. Normally it manifests the problem on higher bands first.

Lastly, if you only have a VOM or VTVM it will be very difficult to troubleshoot loss of ALC indication, loss of RF drive, and loss of RF output power. These can be different problems or related problems. At minimum you need a VTVM and RF probe(s). Easiest way to troubleshoot this kind of problem is to run TX level diagram to find where you are losing the RF drive and then focus troubleshooting efforts at that stage. You need to confirm that you have the required goes in and goes out signals and proper Dc voltages..

Absent test gear all you can do is visual inspections, tube swaps, molex connector wiggling and removal and cleaning, relay contact cleaning. pressing on Driver tube to see if bad solder connection at the socket, tapping on boards etc. Sometimes you get lucky.

If you can confirm that you have good RF-1 voltage and good ALC bus voltage that is not going way as rig warms up and still losing RF drive then you will need an O-scope or VTVM and RF probes for me to be able to help you any further.

You can use your VOM or VTVM to take all the DC voltages at the Driver tube socket and the 6146 final tube sockets to make sure operating bias is good, screen grid voltage is good. Just have to be careful taking these voltages. As stated above I normally first check for proper rf drive voltage and when I find where it is low or missing then I take DC voltages

at that stage. Usually very easy to isolate to the problem stage.

If you are going to plan on maintaining your own TS820 and being able to troubleshoot low or missing RF drive and RF output problems you will need to buy a VTVM and RF Probes or make the required probes. Very first piece of test gear that you should purchase. to work on KW hybrids. Can use DMM but VTVM is better choice.

Terry K9TW

48343. Re: [TS-520_820_530_830] DDS VFO update

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-23 13:16:09 UTC
From: <cocobean64@...>
Topic: 48340 Message: 48343

Ooops.....Fat Finger Fault....7" (inch screen....)

73
Bart

48344. Re: kenwood ts-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-23 15:33:21 UTC
From: <alan023@...>
Topic: 48243 Message: 48344

Hi Terry, I have as yet not resolved the problem . Having replaced Q2 Q3 Q4 IF board and Q1 on the R.F board ,the receiver seems to have a reasonable amount of gain . one observation is though that with themarker on 14.75 you cannot achieve S9 I am starting to suspect reversing plugs 8&9 on the I.F board has also taken out Q2 Q3 Q4 ON THE R.F board . These devices are 2SK125 , not available in the UK , so i have had to order from china , I will have to wait four weeks for parts to arrive . On a different subject do you know where you can get touch up paint for the TS-830 front pannel . 73 Alan G4MJO

48345. Re: kenwood ts-830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-23 16:48:26 UTC
From: <wagstw46@...>
Topic: 48243 Message: 48345

Alan;

I thought your issue was low AGC bus rail on cold turn on? I cant remember.

I think you mean you dont have S9 Marker at 14.175 and not 14.750 mhz? What Marker level do you have? If it is close to S9 with 50uv off air signal then it means the RF/IF gain controlled stages are working and the meter has been calibrated.

Only way to ensure accurate S-9 indication is to perform a good RF and IF alignment and then inject 50uv or -73dBm in to the SO-239 from your RF sig gen and then adjust the AGC meter span pot for S9.

Those without good RF sig gen with calibrated step attenuator can just perform a good coil pack alignment and then set the span pot for S9 and call it close enough for what an S-meter is best for anyway (on air comparison reports). Actually if you have functional Marker and do a good coil pack alignment this method of S-meter "calibration" works reasonably well.

If Q2 buffer amp and Q3/Q4 RIF mixer devices on the RF board are bad you would have no receiver signals at all as you would have no RIF signal leaving the RF board and applied to the IF board. These devices are not gain controlled by the AGC bus rail. Low AGC bus control voltage does not effect these two stages other than providing lower input signal from the output of Q1 RF amp.

Check with Mark Gilger WB0IQK to see if he still sells the matching paint.

Terry

48346. ts530s Driver tube volts, alc pegging, high idle plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-23 20:49:45 UTC
From: ira parker
Topic: 48346 Message: 48346

Where to start? new hv caps,rk-53 resistor kit , screen and driver caps, rl-1 all from k4eaa ken. Replaced q-31 on af board no voltage on alc socket 9 pin 1. Cleaned ant relay, selector switches etc.
Voltages Rx Tx usb, meter lp, mic gain 0, rf gain max, drive max, load 0, plate 14, band 14, heater on, everything else off.
final unit:
control grid bias -107 -55
screen grid 255 243
heater 12.7
drive input 0 -3
lp meter 0 0

rectifier unit:
800 b+ 754 713
hv to meter 36 33
300b+ 336 320
210b+ 257 246
210a 255 243
-c common b- -115 -105
12 screen grid cut off -114 -104
sg2 255 243
tun 128 122
14a 18 18

tubes 6146 v1 pin 1,4,6 0 1.4 pin 2 12.6 ac, pin 3 256 243, pin 5 -107 -55
v2 pin 1,4,6, 0 1.4 pin 2 6.3 ac, pin 3 256 243, pin 5
-107 -55

12by7a pin 1 0 0, pin 2 -47 +0.3 pin 3-6 0 pin 7 335 334, pin 8 207
199, pin 9 0
bias pot -107 to -95 rx -55 to -25 tx and is smooth
c
before parts replacement- 60ma idle current, no alc, no s meter, no rf, hv 750 0 watts ext meter.
post parts replacement- lp bias pot ccw 260ma cw pegs meter, alc pegs meter, rf o bounces 3/4 scale on return to rx usb and cw, hv 750, and now have s meter, still 0 watts on ex meter. Where do we go from here? working on getting a rf meter have access to o-scope. Had rf probe for dvm not real accurate but I could see rf to socket 6 pin 1 on if board but not sure of readings. any help would be greatly appreciated.

Thanks,
Ira Parker
kk4tuo

48347. Re: TS520 Transmit Issue

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-23 21:41:54 UTC
From: <n5pjy@...>
Topic: 48263 Message: 48347

Thanks for the info on this guys. Sorry for such a late reply but have been busy with an ISO audit at the shop. What would be the best way to diagnose the capacitors, by testing the voltages on them? I can see the caps now, but I see no damage, leaking or bulging on them. I am new to getting this deep into this, but I do want to learn it. Any help you could provide would great. Thanks and have a great weekend.

Tommy N5PJY

48348. Re: Loses drive after warm up

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-23 23:51:10 UTC
From: <wontgoquietly@...>
Topic: 47926 Message: 48348

Terry:
To confirm, I was able to tune and get power out from a cold start, but the longer the rig stayed on, plate current and ALC became erratic and I eventually lose output power. When I talk about ALC, I'm talking about tune mode when I would try to retune. Where I would initally be able to peak the ALC with the drive control while tuning, after things start going to pot I'm no longer able to see ALC while trying to retune in tune mode.

Tonight I took the driver tube out of my Tempo 2020 (which works fine) and put it in the 820 to see what would happen. Got anywhere from approximately 50 to 100 watts output measured by external meter to a dummy load. But again plate current was erratic, swinging between 110 to 240 mA, thus the flucuations in power. Keyed down a few times to see if this continued and then the fuse in the back blew and I was done. First time that has happened ever. No 6 amp fuses here so I'll need to pick some up.

Lacking the VTVM and RF probes when I put the new Taylor 6146Bs in last year, I did a poor man's neutralization by monitoring the signal level on another receiver in the shack and adjusting for minimum received signal on that receiver (SW switch off). There wasn't much change while adjusting but I did the best I could.

I think I remember seeing some plans on the internet for building an RF probe. I'll have to go find that again and see if I have what's needed.

As always, I appreciate your help and time in responding.

48349. KENWOOD NET UPDATE (March 23, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-23 23:56:39 UTC
From: Mark Gilger
Topic: 48349 Message: 48349

Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

The net recently celebrated it□s 2nd year in existence on November 1st, 2013. The yearly check-in totals are posted at the bottom of this message. It showed we had a 10% increase in our Saturday check-ins and an 8% on Sunday as compared to the 2012 check-ins.

The Saturday 40 meter net had 20 stations checking in under good band conditions. There were 7 new stations checking in, W3GLH, WD4AYS, KD8HLV, KD3SK, N9OTR, KB3MLT, and K2QMU. We had the following number of radios checking in.

2 running TS-520(x)
4 running TS-530(x)
4 running TS-820(x)
2 running TS-830S

I was running my TS-830s with an L4B amplifier.

The Sunday 20 meter net we had 10 check-in under poor band conditions. We had the following number of radios.

3 running TS-520(x)
0 running TS-530(x)
1 running TS-820(x)
3 running TS-830S

I was running my TS-940s with an L4B amplifier.

We have been having several people checking in regularly with their TS-430, TS-440, and TS-940□s, which of course is not a hybrid, although over 30+ years old. Everyone is welcome as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a net control station, please send me an email. Currently it's just myself, WB2KNR and WB0SGA. I would like to get several more. If we do, we can

alternate so everyone might be on a 3-4 week
rotation. It's a lot of fun and a good way to
make sure you station is optimized.

For anyone that has not heard, we have a new web
site that WB4HFN is hosting. He currently has a
very nice site for Drake, Collins and Heathkit
and now Kenwood Hybrids. Good quality manuals
plus sale flyers and brochures will be found
here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 ☐ Oct. 2012 Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins

November 2013, Saturday☐s net total = 94, Sunday☐s total = 85
December 2013, Saturday☐s net total = 87, Sunday☐s total = 103
January 2014, Saturday☐s net total = 71, Sunday☐s total = 82
February 2014, Saturday☐s net total = 70, Sunday☐s total = 62 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

48350. Re: Loses drive after warm up

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-24 01:31:11 UTC
From: <wagstw46@...>
Topic: 47926 Message: 48350

OK I am a bit nervous about the Taylor 6146 tubes. If I am not mistaken those are Chinese manufacturer and I have not heard anything good about them. I have no personal experience with them and never had a customers rig with them installed. Do you have another set of finals you can try?

Typically for ALC indication to be varying like that means one of two things. RF drive to the 6146 control grids is varying and/or -dc operating dc bias voltage is varying. Unusual for the RF drive to vary. More common for it to be low or missing and not coming and going. You could measure the key down bias and it should be steady at approx -55 to -60vdc.

Can you adjust the zero signal resting plate currrent in SSB mode to 60ma and it is stable?

Nothing wrong with neutralizing using another receiver to listen for the null. You can get pretty close using that method. I dont think neutralization is your problem. When tubes take off the plate current usually pegs and doesnt swing back and forth as you are seeing.

Terry K9TW

48351. Re: TS-520 does not xmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-24 02:12:15 UTC
From: <christopherlarwood@...>
Topic: 47979 Message: 48351

In the latest tests I have conducted, per Mike's suggestion, I swapped out the 6146Bs with a spare pair of S2001a (condition unknown). After tuning up I noted power out was considerably lower than the other tubes - 60 - 70 watts. But the point of the test was to observe plate current for creeping upwards in SSB. I adjusted the bias so it was right on the 60 mA position and left the radio in SSB transmit - no audio output. There was minimal change in plate current - perhaps moving to 70 mA but no further. I left radio in transmit for what would be a typical transmission length 2-5 minutes and the plate current sat steadily at about 70 mA.
I then swapped the 6146Bs back in to do the same test. After tuning up, mA had moved from 60 at commencement to 100 mA in 90 seconds in SSB transmit - no audio so definitely a problem with one or both of the 6146Bs.
To further test I pulled the S2001's from my 2nd 520 to do the same test. This pair were right about the 100w out and also sat steady at 60-70 mA during the transmission test.

I don't know if one or both of the 6146bs has a problem. Do I check with a 2001a and one 6146b at a time to determine if one of the 6146bs could still be OK?
I do have 1 spare 6146b also but condition is unknown.
If I change to the "spare" S2001, I will need to neutralise these - could this be a factor in the lower output power these displayed? These tubes might have just kept as spares because the output power was down.
If need be I just buy another pair of 6146 tubes ?
It appears, I'm most of the way to getting this radio back operating thanks to your help, knowledge and input.
Then there's the other 520S to start on!

Vk5LTD
Christopher

48352. Re: Loses drive after warm up

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-24 10:31:59 UTC
From: <wagstw46@...>
Topic: 47926 Message: 48352

I forgot to ,mention that Ken K4EAA sells the proper fuses.

Take a look at the HV filter caps to see if anything has expelled from the rupture vents and look at the HV doubler diodes D1, D2, D3, and D4 to see if any visible signs of damage.

If fuse does not blow at power on then place meter in HV and key rig and make sure you have 900vdc.

Terry K9TW

48353. Antenna relay replacement/upgrade for TS530

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-24 19:16:14 UTC
From: Jan Servaites
Topic: 48353 Message: 48353

Anyone have a solution for a replacement for the cheap, solder-in antenna relay in the 530?
I'm looking at the Omron MY2DC12(s) and socket, Newark has them for under $6 each.
That seems like the way to go
http://www.newark.com/omron-industrial-automation/my2-dc12-s/power-relay-dpdt-12vdc-10a-plug/dp/36K3444

My repairs are progressing on receiving a completely dead 530:
1) TX - I have good ALC & RF power output (after re-alignment) on 1.8 only, but every other band is way, way down. Looks like an RF board rebuild.
2) Antenna relay - Its completely shot, even after cleaning. Jumpered the relay just to test TX output.
3) RX - Some bands are close to good (after re-alignment), some bad. Points to the RF board again.

Repairs so far:
1) Re-cap on HV & screen & all new tubes (tubes were all junk), resistor kit/plate choke cap kit installed (Anode dc blocking cap was split open)
2) AVR board replaced; All voltage regulators were bad
3) PLL board replaced; Did work originally, then went bad, but recent troubleshooting brought some systems working again.
Lots of cleaning done too

Jan N8CBX

48354. Re: Antenna relay replacement/upgrade for TS530

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-24 20:55:30 UTC
From: <wagstw46@...>
Topic: 48353 Message: 48354

I find people ruin the Fujitsu FBR relay trying to clean the contacts in place. They bend them and break off the small plastic snubbers. I have had good luck buying pulls from Bob Mansker and carefully cleaning and adjusting and measuring the contacts before installing assuming it is the clear cased version. There is a sealed black case version that you cannot open to clean. If you buy from Bob make sure he sends you the clear case one. In my experience he will send it to you mounted on the PC board.

The MY2 is pretty big relay. Bigger than the MX2P used in the TS830. I doubt the socket would fit in the punched hole in the chassis? Might have to use nibbler and open it up some? Cheap enough to buy one set and see if you can make it work.

Ken K4EAA is just starting to evaluate the feasibility of replacing this relay with the same style that he made to replace the Omron LZN4 RL-1 relay and he is now selling on his website. They are beautiful. I have no idea if he will follow thru or when the FBR replacement would be available. I can tell you that when he sets his mind to do something he makes it happen pretty quickly and it is first class.

Terry K9TW

48355. Re: Antenna relay replacement/upgrade for TS530

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-24 23:12:50 UTC
From: <wagstw46@...>
Topic: 48353 Message: 48355

There is one other possibility that you could switch the transmit/receive lead wires to the opposite set of contacts. The contact config as wired sees approx 1.4 rf amps for the NO contact. The NC contacts normally see only uv level off air signals unless exposed to ESD or accidental transmit RF.

The other set of NO and NC contacts supply the Remote socket and may have never been used or just used to key a linear amp relay with DC current in the low MA range.

Terry K9TW

48356. Re: [TS-520_820_530_830] Re: Antenna relay replacement/upgrade for TS530

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-25 00:21:41 UTC
From: Jan Servaites
Topic: 48353 Message: 48356

Terry,
Well, there's another option to use a 830 relay & socket, and maybe Bob might have some spares as well? I just don't like the 530's soldered in relay idea, and yes, someone bent the top arm and I tried to straighten it. I might check that 100pf cap that's on the relay too for shorts.
Jan N8CBX

wagstw46@... wrote:

>
>
> I find people ruin the Fujitsu FBR relay trying to clean the contacts
> in place. They bend them and break off the small plastic snubbers.
>
>
>

48357. Re: [TS-520_820_530_830] Re: Antenna relay replacement/upgrade for TS530

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-24 23:42:27 UTC
From: <wagstw46@...>
Topic: 48353 Message: 48357

Yes the TS830 socket will fit the punched hole in 530 pa cage, but still have the problem that the Omron MX2P is obsolete. Of course can find MX2P pulls and much easier to clean contacts and re-install them.

Also, you can use a commonly available Guardian A410 series relay as a sub for the Omron, but it is about 1 mm taller and a tight fit into the shield can. Also have to remove the polarity post and install a metric screw in its place.

I have installed the Guardians in couple of customer TS830s and so far so good. I provided this info to Bill Adams WD8OSJ and I believe he is using the Guardian now in his TS830?

Terry K9TW

48358. RE: [TS-520_820_530_830] Antenna relay replacement/upgrade for TS530

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-25 07:34:19 UTC
From: fpath fpath
Topic: 48353 Message: 48358

Jan,

Some months back I chased the FBR relay and found a company in your neck of the woods, (Stateside that is). As there were no takers I didnt continue on that journey. The price I received was $US 19.95 ea + postage and handling for the clear top relay, which then made the price jump too high. The stupid thing when I asked for the specs he send me a flyer which showed the price as under $US2.00 each, but was still asking the higher price. I was given a written guarantee that they were brand new un-used, but had a 4 day deliver wait before shipping, so obviously they didn't have them in stock. Contact me off list if you want the details.

73s

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: jservaites@...
Date: Mon, 24 Mar 2014 14:16:14 -0500
Subject: [TS-520_820_530_830] Antenna relay replacement/upgrade for TS530

Anyone have a solution for a replacement for the cheap, solder-in antenna relay in the 530?
I'm looking at the Omron MY2DC12(s) and socket, Newark has them for under $6 each.
That seems like the way to go
http://www.newark.com/omron-industrial-automation/my2-dc12-s/power-relay-dpdt-12vdc-10a-plug/dp/36K3444

My repairs are progressing on receiving a completely dead 530:
1) TX - I have good ALC & RF power output (after re-alignment) on 1.8 only, but every other band is way, way down. Looks like an RF board rebuild.
2) Antenna relay - Its completely shot, even after cleaning. Jumpered the relay just to test TX output.
3) RX - Some bands are close to good (after re-alignment), some bad. Points to the RF board again.

Repairs so far:
1) Re-cap on HV & screen & all new tubes (tubes were all junk), resistor kit/plate choke cap kit installed (Anode dc blocking cap was split open)
2) AVR board replaced; All voltage regulators were bad
3) PLL board replaced; Did work originally, then went bad, but recent troubleshooting brought some systems working again.
Lots of cleaning done too

Jan N8CBX

48359. Re: [TS-520_820_530_830] Antenna relay replacement/upgrade for TS530

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-25 07:42:01 UTC
From: Gordon JC Pearce
Topic: 48353 Message: 48359

On Tue, Mar 25, 2014 at 06:04:19PM +1030, fpath fpath wrote:
> Jan,
>
>
>
> Some months back I chased the FBR relay and found a company in your neck of the woods, (Stateside that is). As there were no takers I didnt continue on that journey. The price I received was $US 19.95 ea + postage and handling for the clear top relay, which then made the price jump too high. The stupid thing when I asked for the specs he send me a flyer which showed the price as under $US2.00 each, but was still asking the higher price. I was given a written guarantee that they were brand new un-used, but had a 4 day deliver wait before shipping, so obviously they didn't have them in stock. Contact me off list if you want the details.

You can get by without the relay if you just jumper it across. All it does is detect pulses from the CB pickup or ECU and run the injection pump - the idea is it will stop pumping if the engine stops for any reason. It has absolutely sod all to do with the rail pressure, that's taken care of by the little mechanical regulator capsule on the outlet side just over the hydraulic pump.

I'd rather link it out and drive home, than sit for hours in a snowstorm waiting for a breakdown truck...

--
Gordonjcp MM0YEQ

48360. Re: [TS-520_820_530_830] Antenna relay replacement/upgrade for TS530

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-25 07:43:01 UTC
From: Gordon JC Pearce
Topic: 48353 Message: 48360

On Tue, Mar 25, 2014 at 07:42:01AM +0000, Gordon JC Pearce wrote:
> On Tue, Mar 25, 2014 at 06:04:19PM +1030, fpath fpath wrote:
> > Jan,
> >
> >
> >
> > Some months back I chased the FBR relay and found a company in your neck of the woods, (Stateside that is). As there were no takers I didnt continue on that journey. The price I received was $US 19.95 ea + postage and handling for the clear top relay, which then made the price jump too high. The stupid thing when I asked for the specs he send me a flyer which showed the price as under $US2.00 each, but was still asking the higher price. I was given a written guarantee that they were brand new un-used, but had a 4 day deliver wait before shipping, so obviously they didn't have them in stock. Contact me off list if you want the details.
>
> You can get by without the relay if you just jumper it across. All it does is detect pulses from the CB pickup or ECU and run the injection pump - the idea is it will stop pumping if the engine stops for any reason. It has absolutely sod all to do with the rail pressure, that's taken care of by the little mechanical regulator capsule on the outlet side just over the hydraulic pump.
>
> I'd rather link it out and drive home, than sit for hours in a snowstorm waiting for a breakdown truck...

I'm posting in the wrong thread about relays, and this is not the Citro?n CX mailing list.

Disregard ;-)

--
Gordonjcp MM0YEQ

48361. AUX position on Band switch 530 / 830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-25 16:06:01 UTC
From: <paw_paw44036@...>
Topic: 48361 Message: 48361

Does anyone on here have any information on the parts that are needed to add the AUX frequency to these rigs? I have talked to several off net and Kenwood was no help. On person mentioned that it may be 11 meters as some countries still use this band in the Amateur Spectrum. I have several manuals for both radios and they are very vague on this subject. Please advise. E-mail wd8osj@wd8osj.com
Bill WD8OSJ

48362. New file uploaded to TS-520_820_530_830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-25 18:01:43 UTC
From: TS-520_820_530_830@yahoogroups.com
Topic: 557 Message: 48362

Hello,

This email message is a notification to let you know that
a file has been uploaded to the Files area of the TS-520_820_530_830
group.

File : /TS830 schmatic question.jpg
Uploaded by : jweigh <jweigh@...>
Description : Instruction manual shows a Q14 here.

You can access this file at the URL:
https://groups.yahoo.com/group/TS-520_820_530_830/files/TS830%20schmatic%20question.jpg

To learn more about file sharing for your group, please visit:
https://help.yahoo.com/kb/index?page=content&y=PROD_GRPS&locale=en_US&id=SLN15398

Regards,

jweigh <jweigh@...>

48363. Re: [TS-520_820_530_830] AUX position on Band switch 530 / 830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-25 19:17:50 UTC
From: John Davidson
Topic: 48361 Message: 48363

The TS520 just needs a Xtal for each of the 4 frequency sockets if you want fixed frequencies,
They Have specs of the Xtal load capacatance in the manual. they just have to be within the VFO range to work..

On Tuesday, March 25, 2014 12:06 PM, "paw_paw44036@..." <paw_paw44036@...m> wrote:

Does anyone on here have any information on the parts that are needed to add the AUX frequency to these rigs? I have talked to several off net and Kenwood was no help. On person mentioned that it may be 11 meters as some countries still use this band in the Amateur Spectrum. I have several manuals for both radios and they are very vague on this subject. Please advise. E-mail wd8osj@...
Bill WD8OSJ

48364. Re: [TS-520_820_530_830] AUX position on Band switch 530 / 830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-25 21:25:59 UTC
From: Jan Servaites
Topic: 48361 Message: 48364

There are empty component spaces on the RF board that names it as "AUX".
I would think some caps & RF cans (L101, L102, L103) could be soldered
in. I guess the PLL would need some programing too.
Jan N8CBX

paw_paw44036@... wrote:

>
>
> Does anyone on here have any information on the parts that are needed
> to add the AUX frequency to these rigs?
>
>
>

48365. Re: [TS-520_820_530_830] AUX position on Band switch 530 / 830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-25 21:04:36 UTC
From: <wagstw46@...>
Topic: 48361 Message: 48365

There is a huge difference between Fixed and Aux operation!

Bill isnt interested in Fixed frequency operation.

I have never seen any KW documentation that describes how to spec the tuned circuits to utilize the Aux feature on the TS530/830 rigs. If it exists from KW I would be very interested in seeing it. Of course also have to find a source of cans of proper size. Suppose could harvest coil pack cans off a parts RF board and rewind them to provide the inductance range you need. Caps to resonate the coils would be no problem.

The only so called KW service bulletin info I have ever seen on utilizing the AUX bandswitch position is for the TS820 and it was pretty useless as it basically says to install the Front End caps and coils as needed for the band of interest, install the new VCO oscillator caps and coils as needed for the band of interests, and to install jumpers on the PD unit for the band range of interest. Very helpful stuff!

Hopefully one of our members has done this to allow listening to favorite short wave station and can direct you to how they speced the tuned circuits.

Understanding the mixing scheme we could probably calculate the required capacitance and inductance values. Might start with something simple like copying 15 mhz WWV? Or perhaps copying 17.660 mhz (2nd harmonic of 8.830) so could use the receiver to adjust KW TX Mixers for lowest spurious output (poor mans spectrum analyzer).

Not sure why KW provided this feature as it is very limited way to get general coverage receiver.

Terry K9TW

48366. Re: [TS-520_820_530_830] AUX position on Band switch 530 / 830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-25 22:57:40 UTC
From: <paw_paw44036@...>
Topic: 48361 Message: 48366

Yes I know the 520 has that feature, but this is a 530, and all together different rig
Bill wd8osj

48367. Re: [TS-520_820_530_830] AUX position on Band switch 530 / 830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-25 22:59:17 UTC
From: <paw_paw44036@...>
Topic: 48361 Message: 48367

Yes there are spaces for this. BUT what are the values and frequencies that can be used?
Bill wd8osj

48368. Re: [TS-520_820_530_830] AUX position on Band switch 530 / 830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-25 23:05:02 UTC
From: <paw_paw44036@...>
Topic: 48361 Message: 48368

Terry,
Thank you. You got it right.
I would like to think that Kenwood didn't throw this information away.
I keep getting the run around with Kenwood No body knows anything.
Bill wd8osj

48369. Re: New file uploaded to TS-520_820_530_830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-25 23:21:48 UTC
From: <wagstw46@...>
Topic: 557 Message: 48369

What is your question?

Depending on the rev of the documentation that you have there are numerous errors on the TS830 and other hybrid schematics. Also depending on the rev of a particular pc board you have there will be component changes and as-built config that does not match the schematic.

Are you troubleshooting a VOX issue? Q13 is used to control VOX delay by discharging C49.

Terry K9TW

48370. Re: [TS-520_820_530_830] AUX position on Band switch 530 / 830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-26 00:04:35 UTC
From: <wagstw46@...>
Topic: 48361 Message: 48370

Bill:

We know that you will want the Q3/Q4 RIF Mixer to produce 8.830 mhz output. It does that on any of the bands by mixing the RF from the ANT and MIXER stage with the VCO which serves as the LO for the RIF Mixer. The PLL produces the required different VCO frequencies by switching in the proper band related VCO Oscillator Q1 thru Q6.

8.830mhz is the difference frequency. So using 15 mhz as the short wave band you want to listen to we can calculate the required LO. 8.830 + 15.0 = 23.830 mhz. So we put 15.0 mhz parallel resonant circuits at the Ant and Mixer vacant positions. We can calculate them and important to get the LC ratio correct which we can measure from the others. Then we need a 23.830mhz output from the VCO board. 23.830 - 15.0 = 8.830 RIF from RF board to the IF chain.

We need to have proper VCO oscillator switched in at the AUX bandswitch position. If you look at the bandswitch diode matrix it appears to me that VCO FET oscillator Q5 is used for 28mhz and for AUX positions of the bandswitch. This looks strange to me. I dont see how we can have both if that is the case. For 28mhz LO the VCO frequency is 36.83 mhz to 37.33mhz. Would require significantly different tank components to get 23.830mhz from Q5 oscillator.

When you look at Q5 will see it is a FET based colpitts oscillator that the tank resonant frequency is varactor diode tuned. Looks like T5, C31, and C33 would have to be changed to produce the 23.830 mhz VCO output to provide the RIF mixer with the LO we need? Unless D13 Varactor can really swing this oscillator when switched by the Aux position?

I havent looked at this in exhaustive manner, but appears you would lose 28 mhz if you have to use Q5 as your VCO oscillator for the AUX position. It seems to me there should be a spare unused FET based VCO oscillator with missing tank circuit components that the diode matrix would switch in when in the AUX position. As I say this is a first blush look and I may be missing something here. If you look at the TS820 VCO board you will see they have a extra VCO oscillator Q11 with the missing tank capacitors and tank inductor that is selected by the diode matrix when the band switch is in the AUX positions.

As I pen this it occurs to me that I have never measured the VCO output frequency in AUX position of the band switch. If you have covers off a TS830 you might want to do that. You do that by connecting your Freq counter to D40 on the PLL board and swing the VFO from 0 to 500. Would be interesting to see if it is different than the 28 mhz output frequency. There is some component difference if you look at the dc voltage from Aux. It applies the FET drain voltage thru D15 and there is an additional capacitor C32 in series with T5 tank coil. Not sure what this config does. If I get time I will look at VCO output of Q5 in aux position. Do it very regularly for 28 mhz during alignments, but never had occasion to look at it in aux.

Terry K9TW

---In TS-520_820_530_830@yahoogroups.com, <paw_paw44036@...> wrote :

Terry,
Thank you. You got it right.
I would like to think that Kenwood didn't throw this information away.
I keep getting the run around with Kenwood No body knows anything.
Bill wd8osj

48371. TS830S Narrow CW Filter...for swap

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-25 16:11:43 UTC
From: <simon@...>
Topic: 48371 Message: 48371

I have a pristine YG-455CN 250Hz CW filter in my TS830S, which I'd like to swap for a YG-455C 500Hz filter to partner the YK-88C filter I've just acquired.

Would anyone like to do a swap? Please e-mail me.

Regards Simon M5POO

48372. Question about difference in schematics I've found.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-25 18:16:21 UTC
From: <jweigh@...>
Topic: 48372 Message: 48372

In looking at the really nice large format schematic from K4EAA I've seen an area on the AF board that has values but no symbol. Looking at the schematics in the original Instruction manual I have it shows as Q14 should be there..
I put up a picture of the K4EAA schematic in the files section "Schematic Question"
Which is real life?
Thanks, Jerry K4GEW

48373. TS830S schematic question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-25 18:34:03 UTC
From: <jweigh@...>
Topic: 48373 Message: 48373

While looking at the really nice large format schematic from K4EAA. I noticed there are voltages given and no component there on the AF board. Looking in my original instruction manual schematic it shows an additional Transistor there..Q14 which looks to go to the collector of Q15.
I put up a picture of the K4EAA schematic on the files list "TS830S Schematic Question"
Which is the most correct? I'm not trying to find fault only pointing out a puzzlement.

Thanks, Jerry K4GEW

48374. Re: TS830S schematic question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-26 03:10:50 UTC
From: <wagstw46@...>
Topic: 48373 Message: 48374

I suspect you are looking at a TS-830M manual and schematic. There is no Q14 on the audio board of a TS-830S. Just white out or disregard the red voltages in this area on Kens large schematic.

Additionally read my first response again. List of TS-830 schematic mistakes have been posted several times on this reflector. If you are a student of the radios you will uncover most of them over time.

Terry K9TW

48375. Re: [TS-520_820_530_830] AUX position on Band switch 530 / 830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-26 11:22:01 UTC
From: <wagstw46@...>
Topic: 48361 Message: 48375

Bill:

I forgot that when you place rig in AUX position that the display blanks. That means there is no VCO output signal for you to measure at D40. That means that when you place rig in AUX that Q5 FET VCO Oscillator produces a VCO frequency that results in out of band operation. So VCO output is defeated by switches Q22/Q9.

I looked at the Q5 oscillator circuit a little more and that additional series cap would result in the total capacitance of the Tank being higher in frequency as capacitors in series are lower in value and would result in the parallel resonance with T5 tank coil being shifted higher in frequency.

If you want to look at the VCO frequency of Q5 you need to remove the blanking signal. You can do that by placing a jumper at Q21. Use couple of pins and grabber test lead and jumper from Base to Emitter of Q21. VERY IMPORTANT----Make sure you are placing the short on the correct transistor leads. This removes the forward bias on Q21 and turns it off. The VCO output line will no longer be shunted to ground and the display will illuminate and your counter at D40 will display the operating frequency of Q5. We know it is in the 35 mhz range on 10 meters and my guess is it will be higher perhaps closer to 40 mhz in AUX position.

I have covers on my two TS830s so cant do the test at this time and have customers TS520S on the bench. Do have a TS830 in the box waiting and if get time I will check Q5 output frequency in Aux position.

Once we known what Q5 does when band switch is placed in AUX position maybe we can work backwards from there to determine the range of the short wave frequencies that could be copied in the AUX position.

Again this is all based on it looks like Q5 is used both for 28 mhz and Aux band. Unlike the TS820 that has an extra VCO oscillator with no tank circuit C and L installed.

Terry K9TW

48376. Re: ts530s Driver tube volts, alc pegging, high idle plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-26 13:25:58 UTC
From: <wagstw46@...>
Topic: 48346 Message: 48376

Ira

I saw no responses? I assume you still need help.

You need to adjust the bias voltage pot to set the resting plate current to 60ma if you can in SSB mode with mic gain turned down. If you cannot then leave the heaters off until you resolve this issue. You can also troubleshoot low or missing RF drive with the Screen Grid switch turned off.

I did not see a measurement of RF-1 on the AF board Conn 11 Pin 5? First thing to do if the ALC meter is pegged up scale. It should be approx 3.2vdc. This voltage powers the ALC bus and if no ALC bus voltage the ALC meter will peg up scale and you will have no dc control voltage to Gate 2 of your Q2 TIF amp and no RF drive voltage therefore no RF output.

You will need RF probe/.VTVM or O-scope to measure RF drive levels as noted on the TX Level Diagram in your service manual. Very easy to quickly determine where RF drive is missing so you can then concentrate troubleshooting efforts such as taking DC voltages at the stage or device.

Start with ensuring there is good RF-1 voltage on the Audio board. If no RF-1 measure 9vdc regulated. If good 9vdc then clean trim pot VR-3 and see if can set RF-1 to 3.2vdc.

Terry K9TW

48377. Re: [TS-520_820_530_830] AUX position on Band switch 530 / 830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-26 14:44:23 UTC
From: <paw_paw44036@...>
Topic: 48361 Message: 48377

Thank you Terry, I will check it out. Dave from Australia mention that it might 11 meters as I guess some countries still include 11 meters in their band plan.
Bill WD8OSJ

48378. Re: [TS-520_820_530_830] AUX position on Band switch 530 / 830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-26 15:38:58 UTC
From: <wagstw46@...>
Topic: 48361 Message: 48378

Bill:

I think I went the wrong way on Q5 VCO oscillator frequency in the AUX bandswitch position. I think it goes down in freq from its normal 10 meter frequency and not up? In the 10 meter bandswitch positions Q5 output frequency is from 36.83 mhz to 38.83 mhz. So for example with the bandswitch at 28mhz and the VFO at 250 Q5 output freq would be 37.08 mhz. 37.08 - 8.830 = 28.250 mhz.

Retaining the normal 10 meter band coverage means that you must maintain tank circuit components T5, C31, C33 values as installed. With these same tank components when you flip bandswitch to AUX position then the output frequency of Q5 VCO oscillator would have to be approx 35.795 mhz to 36.235 mhz to cover the one aux band I think KW had in mind. If this is true then I think it is pretty clear why KW provided this AUX position on the TS530 and TS830 models and it has nothing to do with short wave reception. Look at this:

35.795 mhz - 8.830 mhz = 26.965 mhz or Channel 1
36.085 mhz - 8.830 mhz = 27.255 mhz or Channel 23
36.235 mhz - 8.830 mhz = 27.405 mhz or Channel 40

Look familiar! I think you previously asked me if it could be for 11 meters. Shame on them for not just saying the AUX position was for 11 meter band "receive only". Now the truth is you will notice L103 missing drive coil. on the RF board. Wonder what that is for? Sure aint for receive!

I wont go in to detail here how then to select L101 Ant and L102 Mixer coils for 11 meters.

Only other way I can see to copy any other shortwave bands would be to change out Q5 tank circuit components and then would lose 10 meters.

Of course I could be wrong but sure looks like with the way Q5 VCO is configured only use for the AUX bandswitch position is for 11 meter coverage. Measuring of Q5 output frequency in AUX position will confirm this. Next TS830 I get on bench will try to remember to do that.

Terry K9TW

48379. Re: [TS-520_820_530_830] AUX position on Band switch 530 / 830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-26 16:55:12 UTC
From: <wagstw46@...>
Topic: 48361 Message: 48379

OK then KW wasnt being nefarious, but why not just say what the Aux position is for and how to engage it unless not wanting to make that known in countries where it was illegal? Could have used a disclaimer statement. Wonder if they sold a kit of parts in those countries? Here is an L101, L102, L103 and capacitor for Q5 VCO oscillator?

Most folks who mod TS530 and TS830 dont use the AUX bandswitch position as easier to just switch the BCD input from the counter to the 1/N feedback signal divider and get 11 meters coverage on 10 meters. Just have to do a little coil pack tweaking and good to go. If a non-ham they dont care if they lose 10 meters. Some will put in switch so can still retain 10 meters. This mod is well published on the web.

Again I am not certain but sure looks like what the AUX position is intended for. Still not certain what C32 does for Q5 frequency and if its value needs to be changed? Clearly will get a different output frequency from Q5 between 28 and Aux bandswitch positions as the circuit is built.

Terry K9TW

48380. Re: Loses drive after warm up

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-26 22:21:34 UTC
From: <wontgoquietly@...>
Topic: 47926 Message: 48380

Terry:

I have another pair of 6146Bs I can try in there and see if things stabilize. I'll give it a try after I get a fuse.

Thanks,
Tim
NT9M

48381. AUX band switch on 530/830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-26 23:44:14 UTC
From: <paw_paw44036@...>
Topic: 48381 Message: 48381

I want to thank you all for your suggestions.
Terry and I are working on this off the reflector to find a solution.
It may take us awhile, but I'm sure we will find one.
Thank you again
Bill WD8OSJ

48382. RE: [TS-520_820_530_830] AUX band switch on 530/830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-27 00:10:59 UTC
From: fpath fpath
Topic: 48381 Message: 48382

Bill\Terry and Group,

Hot off the email from Japan as we speak. The AUX is now a spare spot on the band switch, the design of the radio was when 11m belonged to the ham fraternity. When change came about, it was too hard for Kenwood, to redesign the the RF and PLL boards to cater for this, so they move the frequencies up one notch on the band switch, removing 11m. Now the hard part is getting the exact information. The Kenwood guy told me that the transformers are only a few uH different to the 10m band, but within the same range, the 10 m cans\formers are close enough and would be wise to salvage from junked RF board. A few "0" ohm resistors (links) and caps are required this will then complete the original design. Frequency range for 11m is 26.934.0 to 27.579.0 +\- 5Hz. He told me that the very first edition of the service\user manual had 11m included in the circuit diagram. He did not mention where it was located on the band switch. I have asked him if he has that diagram\service manual - not sure how long this will take to get a response as this took over 9 days to get a reply.

73s

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: paw_paw44036@...
Date: Wed, 26 Mar 2014 16:44:14 -0700
Subject: [TS-520_820_530_830] AUX band switch on 530/830

I want to thank you all for your suggestions.

Terry and I are working on this off the reflector to find a solution.

It may take us awhile, but I'm sure we will find one.

Thank you again

Bill WD8OSJ

48383. 520 crystals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-27 00:38:03 UTC
From: fpath fpath
Topic: 48383 Message: 48383

Wes,

Found this ad on VKHAM.com for 520s crystals. Not sure if it will help you

73s

Dave

VK5PDL

Ad Information

Category:
Parts

Subcategories:
Radio Parts

Price
$15.00 Each

Manufacturer
Hy-Q

Year of Manufacture
Unknown

Condition
As New

Other inclusions
I have some 35895 Crystals . Nos.

Payment Methods
Cash
Money Order

Postage / Freight
Buyer Pays

Amateur Callsign (if applicable)
VK2Tom

Description

I have some 35895 crystals to suit TS520/S

Contact Information

Contact:
Bill Brodie

Location:
Lot 40 Kingshill Rd
Mulgoa, NSW 2745
Australia

Telephone:
0417 66 50 56

E-Mail:
charlemagne@...

48384. Re: [TS-520_820_530_830] 520 crystals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-27 06:27:16 UTC
From: Wes Will
Topic: 48383 Message: 48384

On 03/26/2014 07:38 PM, fpath fpath wrote:

> Found this ad on VKHAM.com for 520s crystals. Not sure if it will help you
>

> Dave:

Sorry, I thought it had been made clear enough. I got the crystals manufactured fresh in the state of Oklahoma by ICM. They did a perfect job. The crystals have been swapped out and everything is working again on ten meters instead of eleven.

Appreciate the source, those were only a few dollars less than brand-new, and with shipping might have actually come out to more considering the costs involved getting across the big pond.

Incidentally, in the post about getting the crystals in, I wrote up a rather detailed and step-by-step procedure for pulling the oscillator board and replacing it with the new crystals in. If you need to do this some day and want guidance, three people so far have indicated that it is both correct and detailed enough to be helpful. I will take that as a sign that it isn't too poorly written. Hope it helps you, or someone else.

--
Wes Will
N9KDY

48385. RE: [TS-520_820_530_830] 520 crystals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-27 09:41:32 UTC
From: fpath fpath
Topic: 48383 Message: 48385

Wes,

Sorry I didn't know, havent been getting all the posts over the last month or so. Thanks for the offer but the 20 series whilst nice radios are too much headache for me hihi. I try and stay with the 30 series, but do occasionally look at others. Enjoy your radio and glad to see you have it working.

73's

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: wwill@...
Date: Thu, 27 Mar 2014 01:27:16 -0500
Subject: Re: [TS-520_820_530_830] 520 crystals

On 03/26/2014 07:38 PM, fpath fpath wrote:

> Found this ad on VKHAM.com for 520s crystals. Not sure if it will help you
>

> Dave:

Sorry, I thought it had been made clear enough. I got the crystals manufactured fresh in the state of Oklahoma by ICM. They did a perfect job. The crystals have been swapped out and everything is working again on ten meters instead of eleven.

Appreciate the source, those were only a few dollars less than brand-new, and with shipping might have actually come out to more considering the costs involved getting across the big pond.

Incidentally, in the post about getting the crystals in, I wrote up a rather detailed and step-by-step procedure for pulling the oscillator board and replacing it with the new crystals in. If you need to do this some day and want guidance, three people so far have indicated that it is both correct and detailed enough to be helpful. I will take that as a sign that it isn't too poorly written. Hope it helps you, or someone else.

--
Wes Will
N9KDY

48386. RE: [TS-520_820_530_830] AUX band switch on 530/830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-27 15:31:23 UTC
From: <wagstw46@...>
Topic: 48381 Message: 48386

Thanks Dave

Now we just need to get your KW source to tell us all you need to do on the PLL is adjust Q5 T5 so you can get a frequency swing from 35mhz to 38mhz and we are good to go. I see that the tank capacitors are potted on the board in some kind of resin so not likely you mess with them. You can see that other VCO oscillators are shared between 2 bands and they have a 2 to 3 meg swing. I see different Varactor diodes used and some are even back biased. This means some will see an increase in freq with decreased varicap tuning line voltage and some will see an increase in freq with increase in tuning line voltage. Not sure why they do this. I need to make time to play around with the PLL board more.

As this is getting long and really more of an academic exercise now and not really interested in helping people to use AUX for CB band reception, Bill and I are taking off the reflector and will work on as time permits.

Thanks again
73s Terry K9TW

48387. Re: [TS-520_820_530_830] AUX band switch on 530/830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-27 19:34:44 UTC
From: Craig Roberts
Topic: 48381 Message: 48387

Ah -- but could the AUX position be used to access the 60 meter band?

Not to worry, I will not be pursuing this question further.

73,

Craig
W3CRR

48388. Re: [TS-520_820_530_830] AUX band switch on 530/830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-27 21:46:55 UTC
From: <wagstw46@...>
Topic: 48381 Message: 48388

Craig

You are limited to what you can do with VCO oscillator Q5 which is shared for the 10 meters and Aux positions of the bandswitch. The output frequency of Q5 is 3 times higher than what you would need for 5 mhz. Would need a VCO oscillator in the 13mhz to 14 mhz range and even if could pull Q5 to that range would then lose 10 meters.

Terry K9TW

48389. TS-830S AGC problem

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-28 02:54:39 UTC
From: <guido@...>
Topic: 48389 Message: 48389

I had my TS-830S just sitting there listening to a SSB net while I was working, and the audio stopped!

The s-meter still works, i.e. fluctuates with signals and the calibration signal, but there is no audio out, unless the AGC is on OFF. The radio appears to work correctly, (I haven't tried transmitting.) but there is no audio unless the AGC is OFF.

I've poked around and checked the voltages on the IF board, and they appear OK. I've followed the calibration signal thru the board, but it goes off when you switch the AGC to FAST or SLOW. I'm not familiar enough with the circuitry to determine where the problem is.

Can anyone suggest where to look next?

Thanks,

Bill
KA4GAV

48390. Inexpensive Digital RF Millivolt Meter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-28 12:13:56 UTC
From: <wagstw46@...>
Topic: 48390 Message: 48390

I bought a digital RF millivolt meter off Ebay ($41.00 shipped). I did this for a friend to evaluate it for him and will be shipping it to him.

You can view it here: 281216433787

I have not performed an exhaustive evaluation but did compare its accuracy to my calibrated Boonton 92E. It is shipped no cost from China. There are no instructions with it. You plug the display in (must orient correctly but no big deal). I powered if from 9vdc from my bench supply. Just 4 connections plus and minus dc power and RF in and ground.

It has a nice bright blue display with protective plastic over it. It displays dBm, millivolts, and power.

I drove it with calibrated RF sig gen. I did so with the input terminated in 50 ohm load and with it un-terminated. In both cases it did not read correctly. You must use the Function key and the Set key to either Plus or Minus a dBm offset. Very easy to do.

Once that is done it reads close and seems to track. It is advertised to read from 1 mhz to 500mhz. I did the testing at 14.200 mhz, but did run up higher just to confirm it can read 2 meters for example.

It is also advertised as having a range of -80dBm (22uv) to 10 dBm (707mv). Mine crapped out at around -70dBm. A little disappointed about that. Not often you need to read levels this low other than would be nice to accurately read -73dBm (50uv) from your RF Sig Gen so you know you are using level needed to cal your KW S-meter. Of course you can read higher than 10dBM by using a step attenuator at the RF input.

I printed the specs provided by the Seller in his Ebay listing. That is the only documentation I could find. No schematic, no circuit description etc. I suspect it may be based on Wes Haywoods W7ZOI popular RF power meter that uses a AD8307 log amp.or perhaps a later version chip?

So I am Not Endorsing this unit, but if you have no VTVM and RF probes and want to be able to measure and adjust KW hybrid RF voltages such as Carrier Osc, Het Osc and VFO output this meter works just fine. Certainly cant beat the price. It could be placed in a nice bud box. I did not measure the power consumption so not sure how long a 9vdc battery would power it.

Terry K9TW

48391. Re: TS-830S AGC problem

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-28 13:04:53 UTC
From: <wagstw46@...>
Topic: 48389 Message: 48391

Bill

Done with my coffee and heading to the bench so customers dont think I am a slacker!

I know you say you have normal S-meter function in Fast and Slow, but humor me and do this:

1. Measure the AGC bus voltage at IF board Conn 15 Pin 3 with high Z meter (VTVM or DMM) in Fast or Slow. On dummy load it should be 3.6vdc, but your meter will pull it down to approx 2.6vdc or so and should cause S-meter to move up scale. Make sure you are on Pin 3 as there is 300vdc on Pin 1.

2. Again make certain on Pin 3 and connect 3.0vdc to Pin 3. If no bench supply then couple of flash lite batteries in series. Minus to chassis ground and plus to Pin 3. This should power the AGC bus on hard and keep the IF amp mosfets turned on. See if you get your audio output back with stiff 3vdc applied to the AGC bus.

The only thing that should happen when you turn AGC OFF is bias off Q10 AGC amp so it cannot pull the AGC bus voltage down. Now only control of the AGC bus voltage should be the RF gain pot that powers the bus thru RFG.

Terry K9TW

48392. A B swith....

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-28 14:30:13 UTC
From: <bsa0791@...>
Topic: 48392 Message: 48392

Is it ok to put a TS 530 and 520 on a ab switch. I was going to have both going thru one antenna tuner. I know the 530 is very sensitive to rf and did not want to damage anything..
Thanks Brian kb4mng

48393. Re: [TS-520_820_530_830] Re: TS-830S AGC problem

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-28 14:39:31 UTC
From: Bill Turini
Topic: 48389 Message: 48393

On 3/28/2014 8:04 AM, wagstw46@... wrote:
>
> Bill
>
>
> Done with my coffee and heading to the bench so customers dont think I
> am a slacker!
>
> I know you say you have normal S-meter function in Fast and Slow, but
> humor me and do this:
>
> 1. Measure the AGC bus voltage at IF board Conn 15 Pin 3 with high Z
> meter (VTVM or DMM) in Fast or Slow. On dummy load it should be
> 3.6vdc, but your meter will pull it down to approx 2.6vdc or so and
> should cause S-meter to move up scale. Make sure you are on Pin 3 as
> there is 300vdc on Pin 1.
>
> 2. Again make certain on Pin 3 and connect 3.0vdc to Pin 3. If no
> bench supply then couple of flash lite batteries in series. Minus to
> chassis ground and plus to Pin 3. This should power the AGC bus on
> hard and keep the IF amp mosfets turned on. See if you get your audio
> output back with stiff 3vdc applied to the AGC bus.
>
> The only thing that should happen when you turn AGC OFF is bias off
> Q10 AGC amp so it cannot pull the AGC bus voltage down. Now only
> control of the AGC bus voltage should be the RF gain pot that powers
> the bus thru RFG.
>
> Terry K9TW
>

Terry

Well, I too had my first cup and attended the daily status report for work, so everyone thinks I'm working.

I measured the voltage at pin 3 of connector 15 with my Tektronics RMS DMM. With no signal to the radio, I measured 3.00x volts on the pin in all positions of the AGC switch. The meter did go upscale when I measured the voltage, and the upscale reading was the same for all positions of the AGC switch.

I did not see where connecting 3.0 volts to the bus would accomplish anything, as that's what the reading was. But if you feel that will provide additional information, I will do it.

Thanks for the reply, and what should I try next.

Bill

--
Bill Turini
KA4GAV

48394. Re: Inexpensive Digital RF Millivolt Meter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-28 15:55:51 UTC
From: <adrian@...>
Topic: 48390 Message: 48394

Terry's posted prompted me to post about a much older (around 1964) RF voltmeter that I picked up on eBay last week:

http://www.ebay.co.uk/itm/Electronic-voltmeter-by-G-E-Bradley-complete-with-RF-probes-etc-/201048437459?_trksid=p2047675.l2557&ssPageName=STRK%3AMEWNX%3AIT&nma=true&si=6EWBVimHzkpXlrfiT4Sy3xwrgGE%253D&orig_cvip=true&rt=nc http://www.ebay.co.uk/itm/Electronic-voltmeter-by-G-E-Bradley-complete-with-RF-probes-etc-/201048437459?_trksid=p2047675.l2557&ssPageName=STRK%3AMEWNX%3AIT&nma=true&si=6EWBVimHzkpXlrfiT4Sy3xwrgGE%253D&orig_cvip=true&rt=nc

I was also able to download the manual and circuit diagrams from VMARs site, and also read posts about various common problems with this meter and how to fix (most problems seemed to stem from screened Germanium trannies going short-circuit).

Functions as full multimeter but I only bought it for the RF volts measurement.

Well to be honest I haven't had chance to test it on my TS520SE yet, but it looks like it's in perfect working order and just a pleasure to use. Even the mechanics of the sprung hinge case neatly holding the RF probes (terminated and unterminated, and one for 400V) are a delight. It smells of old aircraft when you open it up and breathe in!

It had sealed stickers on it showing it was in RAF hands (UK equivalent of USAF) till at least 2008, and was calibrated then by an instrument calibration outfit who are still around. It has an internal 12V DC calibration and that works fine, as does measurement of any resistors I've tried it with. All the zeroing controls operate OK.

So if you see one of these around (goes under the original military spec of CT471) and you can verify it works, or is cheap enought o take chance on it like I did then it shows there is plenty of utility in older instruments too.

73 Adrian G4IQW

48395. Re: A B swith....

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-28 18:27:35 UTC
From: Mark Gilger
Topic: 48392 Message: 48395

Brian,
Yes, but I would suggest a good AB switch like an Alpha Delta. Don't use one of the cheap ones as you might have problems with RF feeding back into the unused radios front end.

Mark, WB0IQK

48396. Re: [TS-520_820_530_830] Re: A B swith....

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-28 19:09:44 UTC
From: Craig Roberts
Topic: 48392 Message: 48396

I'm with my friend Mark on this one. Besides the aforementioned Alpha Delta units, the old Heathkit HD-1234 coax switches work well. I have two in line now to select among radios, antennas and my dummy load (a Heathkit Cantenna, of course). Oh did I mention that I used to work for Heath?

The "ne plus ultras" of mechanical coax switches, however, are made by Bird Technologies (y'know, the wattmeter people). New ones cost slightly less than an automobile, but used ones show up from time to time on auction sites. Prices are in the "whatever the market will bear" range - $65-$100 at the low end up to $500 or more (check it out; I'm not kidding).

Whatever you do, DON'T get a blue or greenish painted, re-branded one that's made "over there - WAY over there" and costs 20 bucks or so. I had two of those things some time ago and they both literally fell apart internally.

73,

Craig
W3CRR

48397. Re: [TS-520_820_530_830] Re: TS-830S AGC problem

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-28 19:29:05 UTC
From: <wagstw46@...>
Topic: 48389 Message: 48397

Cant see the response?

Terry K9TW

48398. group policies/rules regarding indentification

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-29 17:45:02 UTC
From: Joseph Stiles
Topic: 48398 Message: 48398

Greetings Group!

I hope all of you are doing great so far into this new year.

It is rather distressing that newly approved members fail to read the "auto-send msg" that is generated, and sent to ALL new members upon approval of membership to this group, regarding the requirement(s) for identification when posting msg's and/or questions. They request help regarding various "problems" that are plaguing their rig(s) which is the purpose of this group. It is suspect that IF they can not read and adhere to the groups simple rules/policies, how can we expect them to possibly follow possibly complicated diagnostic instructions?

The moderators and myself, try to do a good job keeping the group safe, sound, interesting,
and free of QRM/QRN. The rules/policies are CLEARLY stated. This seems to be a continuing problem. It will be no longer. All new/newer members or, any others that are "moderated" or otherwise restricted in regards to posting privileges...take heed...this also includes the "old timers" who are "un-moderated,".....

IDENTIFICATION IS MANDATORY.....see group home page for further explanation

We now return to our regular programming.....

73 Joe
WB7UQU
Kenwood TS-520_820_530_830 Yahoo! group Co-owner

48399. identification requirements - supplement

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-29 20:05:20 UTC
From: Joseph Stiles
Topic: 48399 Message: 48399

Greetings Group,

It still seems that there is some confusion.

Go to this groups home page, under the picture of the wonderful Kenwood station, click on "FILES." Look at the third file down: "AUTOTEXT MSGS."
Click on the first one. It clearly states this groups rules/policies regarding the aforementioned
topic, which is "auto-send" to EVERY new member, upon approval of membership.

Mike-w5rkl(group moderator), and myself, Joe-wb7uqu(group Co-owner), spend a great deal of time having to deal with such things.

Thanks for your attention regarding this matter....we now return you to the regular program

73 Joe
WB7UQU
TS-520_820_530_830 Yahoo! group Co-owner

48400. Re: A B swith....

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-29 23:06:39 UTC
From: John Holden
Topic: 48392 Message: 48400

There is a Bird RF switch listed right now on QRZ..under $500.

John/N7IQV

48401. Re: [TS-520_820_530_830] Re: A B swith....

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-30 13:50:44 UTC
From: Mike W5RKL
Topic: 48392 Message: 48401

A good multi connection coax antenna switch will ground any SO-239 socket that is not in use or selected. If, for example, the coax switch has 6 settings and the switch is set to position 2, the center and ground of each SO-239 in positions 1, 3, 4, 5, and 6 are connected together, i.e., grounded. Therefore, any radio connected to the unused/unselected switch positions will have the SO-239 center and shield connected together. The coax switch should be connected to the shack's ground. Don't rely on the 120VAC "safety ground" to be used as your "shack ground".

I have and use the MFJ-1701 6 position antenna coax switch and have never experienced any failures in any radios connected to the MFJ-1701 coax switch due to high levels of RF from 100 watts or higher, and that includes my Yaesu FT-857D and FT-757GX that are connected to the MFJ-1701!

73
Mike W5RKL

On 3/29/2014 6:06 PM, John Holden wrote:
> There is a Bird RF switch listed right now on QRZ..under $500.
>
> John/N7IQV
>

48402. Re: [TS-520_820_530_830] Re: A B swith....

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-30 19:41:18 UTC
From: <wagstw46@...>
Topic: 48392 Message: 48402

Notice Mike mentions a "GOOD" antenna switch. Most of the commercial ones you buy today advertise an isolation spec of greater than 50 dB and should be just fine unless you mis-configure them.

What does 50 dB isolation mean?

It means that if you connect a dummy load to Port 1 and connect your rig to the Common Port and apply 100 watts into the Common Port which is approx 70.7 rms rf volts you should see no more than approx 223mv rf volts at Port 2, Port 3, Port 4 or any of the other grounded ports.

I like Mark prefer to use the Alpha Delta switches for several reasons. The switches have very good positive detents, they advertise greater than 50dB isolation, and they have a replaceable gas discharge arc gap built in. Not cheap but good quality.

I have measured my AD switches at 14.2mhz with 100 watts input and I get approx 120mv rms at the open ports which is 55dB isolation. So they meet the advertised spec. Now what does that mean for another receiver connected to that port? Well full scale S-meter deflection on most Kewnwood hybrids occurs with approx 3mv at the SO-239. So 120mv is still a pretty big signal for the front end of any receiver. It would peg the S-meter hard, but should not burn out step up transformers like L41 or the RF amp mosfet.

The key is dont rely on antenna switch port isolation. Never configure any antenna switches that would allow you to accidentally transmit into the front end of another connected transceiver or receiver.

Years ago antenna switches like B&W and Heath might even have the dB isolation spec on a label on the switch case. So if buying at hamfest see if there is anything about port isolation on a label affixed to the antenna switch.

Personally I would stick with the "Good" name brands today as Mark and Mike suggests. I would be pretty nervous about CB antenna switches, hamfest specials, or homebrew switches.

If you have a Heath VTVM and RF probe or O-scope suggest you test your new switch before using it. Just test as stated above with 100 watts and dummy load and measure the RF voltage at unused ports. If you read more than 223mv at a grounded port it means you have less than 50 dB of isolation and maybe need to think about how you plan to use it. It would be fine for a single transceiver and a dummy load and couple of antennas.

Terry K9TW

48403. Re: [TS-520_820_530_830] Re: A B swith....

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-30 20:34:16 UTC
From: <wagstw46@...>
Topic: 48392 Message: 48403

One thing I forgot to mention that grounded means for DC and may not mean same the thing for RF especially as you move up in frequency. Really depends on lead lengths and lead dress inside the switch. Of course it can mean pretty much nothing for lightning especially if havent taken precautions outside the house.

Also, dont depend on the fact that the 2nd transceiver is turned off to protect it when transmitting on the 1st rig. The front end will still see whatever RF voltage is presented at the switch port.

If you do not have any means to measure the RF voltage at the other ports you can turn your 2nd rig on and while transmitting on the 1st rig at 100 watt output level see what your S-meter does. I would test on all the bands, but with emphasis on 10 meters. I would be surprised if you did not see S9 +40 or what ever max is for the transceivers you are using.

Terry K9TW

48404. Re: [TS-520_820_530_830] Re: A B swith....

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-30 20:38:09 UTC
From: Mike W5RKL
Topic: 48392 Message: 48404

Oh and the switch wafer should be made of Ceramic not the same material the band switch and Mode switch wafers are made of.

There's a cheap 3 position coax switch, the Workman CX-3 3 position coax switch that is priced between $10 to $35 and is being sold on ebay. The front cover says it is rated at 1KW. I have one of these, bought it a few years ago to see what it was made of. It's cheaply made, the wafer switch is made of the same material the Mode and Band switch wafers are made of, and the unselected SO-239 sockets are NOT grounded, even in the "OFF" position!!! I would be very leery applying 100 watts to this switch and clearly I would NOT apply 1KW as the front panel says!! The detente is soft, very mushy and no clearly defined solid detente, when brand new! The only good thing about this switch are the 4 SO-239s you can remove and use elsewhere.

The make and model coax switch you chose is entirely up to you.

73
Mike W5RKL

On 3/30/2014 2:41 PM, wagstw46@... wrote:
>
> Notice Mike mentions a "GOOD" antenna switch. Most of the commercial
> ones you buy today advertise an isolation spec of greater than 50 dB
> and should be just fine unless you mis-configure them.
>
>
> What does 50 dB isolation mean?
>
> It means that if you connect a dummy load to Port 1 and connect your
> rig to the Common Port and apply 100 watts into the Common Port which
> is approx 70.7 rms rf volts you should see no more than approx 223mv
> rf volts at Port 2, Port 3, Port 4 or any of the other grounded ports.
>
> I like Mark prefer to use the Alpha Delta switches for several
> reasons. The switches have very good positive detents, they advertise
> greater than 50dB isolation, and they have a replaceable gas discharge
> arc gap built in. Not cheap but good quality.
>
> I have measured my AD switches at 14.2mhz with 100 watts input and I
> get approx 120mv rms at the open ports which is 55dB isolation. So
> they meet the advertised spec. Now what does that mean for another
> receiver connected to that port? Well full scale S-meter deflection on
> most Kewnwood hybrids occurs with approx 3mv at the SO-239. So 120mv
> is still a pretty big signal for the front end of any receiver. It
> would peg the S-meter hard, but should not burn out step up

> transformers like L41 or the RF amp mosfet.
>
> The key is dont rely on antenna switch port isolation. Never configure
> any antenna switches that would allow you to accidentally transmit
> into the front end of another connected transceiver or receiver.
>
> Years ago antenna switches like B&W and Heath might even have the dB
> isolation spec on a label on the switch case. So if buying at hamfest
> see if there is anything about port isolation on a label affixed to
> the antenna switch.
>
> Personally I would stick with the "Good" name brands today as Mark and
> Mike suggests. I would be pretty nervous about CB antenna switches,
> hamfest specials, or homebrew switches.
>
> If you have a Heath VTVM and RF probe or O-scope suggest you test your
> new switch before using it. Just test as stated above with 100 watts
> and dummy load and measure the RF voltage at unused ports. If you read
> more than 223mv at a grounded port it means you have less than 50 dB
> of isolation and maybe need to think about how you plan to use it. It
> would be fine for a single transceiver and a dummy load and couple of
> antennas.
>
> Terry K9TW
>
>

48405. KENWOOD HYBRID NET UPDATE (March 30, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-30 23:24:19 UTC
From: Mark Gilger
Topic: 48405 Message: 48405

Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

Dayton Hamvention Kenwood Legacy Forum:
This year will be the first year for the Kenwood
Hybrid Legacy Forum to be held at the Dayton
Hamvention. The forum will be Sunday May 18th.,
room #2, 10:30 □ 11:30. The following preliminary agenda has been proposed:

* History of the legacy products.
* Resource help with parts, documentation, etc..
* SDR integration into the legacy line.
* Rewinding a TS-830 L41 coil.
* Tips & Hints.
* Questions and Answer Technical Session
We hope to see you there.

The net recently celebrated it□s 2nd year in
existence on November 1st, 2013. The yearly
check-in totals are posted at the bottom of this
message. It showed we had a 10% increase in our
Saturday check-ins and an 8% on Sunday as compared to the 2012 check-ins.

Jimmy, WB2KNR ran the Saturday 40 meter net. He
had 21 stations checking in under good band
conditions. There were 6 new stations checking
in, WA3VZK, KT3E, KC2MMC, WD4DMZ, KA1WVM, and KB4ZTK.

We had the following number of radios checking in.

3 running TS-520(x)
4 running TS-530(x)
2 running TS-820(x)
4 running TS-830S

He was running his TS-520.

The Sunday 20 meter net we had 11 check-in under
poor band conditions. There was 1 new check-in,
AF7CY. We had the following number of radios.

3 running TS-520(x)
0 running TS-530(x)
2 running TS-820(x)
2 running TS-830S

I was running my TS-940s.

We have been having several people checking in
regularly with their TS-430, TS-440, and
TS-940□s, which of course is not a hybrid,
although over 30+ years old. Everyone is welcome
as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a
net control station, please send me an email.
Currently it's just myself, WB2KNR and WB0SGA. I
would like to get several more. If we do, we can
alternate so everyone might be on a 3-4 week
rotation. It's a lot of fun and a good way to
make sure you station is optimized.

For anyone that has not heard, we have a new web
site that WB4HFN is hosting. He currently has a
very nice site for Drake, Collins and Heathkit
and now Kenwood Hybrids. Good quality manuals
plus sale flyers and brochures will be found
here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 □ Oct. 2012 Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins

November 2013, Saturday□s net total = 94, Sunday□s total = 85
December 2013, Saturday□s net total = 87, Sunday□s total = 103
January 2014, Saturday□s net total = 71, Sunday□s total = 82
February 2014, Saturday□s net total = 80, Sunday□s total = 85
March 2014, Saturday□s net total = 82, Sunday□s total = 73 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

48406. Where to start...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-30 22:15:05 UTC
From: Mike Mull
Topic: 48406 Message: 48406

I just aquired a TS-820 from my late uncle. I am signed up for a class to obtain a tech license but in the mean time would love to just listen to some broadcasts on a band that once licensed I can legally operate on. The transceiver also ce with a remote VFO-820, a station monitor SM-220 and a SP-820. My question is anyone want to walk me threw setting this up?
Sent from my iPhone

48407. Band question...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-31 01:36:06 UTC
From: <hillbillydlux76@...>
Topic: 48407 Message: 48407

I understand with a tech license I'm limited to what I can operate on legally. I was told 10 meters is a frequency I can operate on with my TS-820 with voice. My question is now that I have a antenna, that assume is properly hooked up. How do I get to 10 meters. Please respect that this is all new to me. I have turned on the transceiver only to hear some chatter and a bit of CW. In regards to the band setting and the other knobs and switches I am clueless

48408. Re: [TS-520_820_530_830] Band question...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-31 02:24:55 UTC
From: Joseph Stiles
Topic: 48407 Message: 48408

First, obtain the owner/operators manual and READ it multiple times. These radios are not plug-n-play. You will be required to "tune it up." Find yourself a "dummy load" capable of handling at least 100 watts. You don't want to be causing interference.
Novice/Tech are allowed to operate Phone/Voice on 10 Meters between 28.300mHz and 28.500mHz

Also, PLEASE read the "auto-send" message your received when your membership was approved regarding proper indentfication

 In short: Your post(s) are required to be signed with your First NAME & CALL SIGN (if any)

73 Joe
WB7UQU
TS-520_820_530_830 yahoo group Co-owner

On Sunday, March 30, 2014 6:57 PM, "hillbillydlux76@..." <hillbillydlux76@...> wrote:

>I understand with a tech license I'm limited to what I can operate on legally. I was told 10 meters is a frequency I can operate on with my TS-820 with voice. My question is now that I have a antenna, that assume is properly hooked up. How do I get to 10 meters. Please respect that this is all new to me. I have turned on the transceiver only to hear some chatter and a bit of CW. In regards to the band setting and the other knobs and switches I am clueless
>
>
>

48409. Re: [TS-520_820_530_830] Where to start...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-31 02:32:52 UTC
From: Joseph Stiles
Topic: 48406 Message: 48409

Mike,

I'm not sure what you are asking. If you just want to listen until your get your license...you can erect a simple long wire antenna around the inside of a room and plug it into the middle of the antenna connector on the rear.
DO NOT ATTEMPT TO TRANSMIT WITH THIS ARRANGEMENT.
Daytime usually favors higher frequencies, night time tends to favor lower frequencies.
There are exceptions...but don't worry about that now.
Start scanning around, you'll be surprised what you can hear with a simple wire antenna.

Please remember to properly sign the end of your post(s)

73 Joe
WB7UQU
TS-520_820_530_830 yahoo group Co-owner

On Sunday, March 30, 2014 6:57 PM, Mike Mull <hillbillydlux76@...> wrote:

>
>I just aquired a TS-820 from my late uncle. I am signed up for a class to obtain a tech license but in the mean time would love to just listen to some broadcasts on a band that once licensed I can legally operate on. The transceiver also ce with a remote VFO-820, a station monitor SM-220 and a SP-820. My question is anyone want to walk me threw setting this up?
>Sent from my iPhone
>
>
>
>

48410. Re: Band question...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-31 02:53:57 UTC
From: <hillbillydlux76@...>
Topic: 48407 Message: 48410

I will research a procedure for a dummy load test, as well as a tune up. I apologize for not following procedure in the post. Is there any specific thing (s) I need to look for with this being a older piece of equipment? Thanks again, Mike M

48411. Re: [TS-520_820_530_830] Re: Band question...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-31 04:23:29 UTC
From: Joseph Stiles
Topic: 48407 Message: 48411

Mike,

It would be helpful to know what you know about basic electronics and/or this radio in particular.
A good basic "eyeball" inspection should be the first step BEFORE you turn on the power. You can avoid potential problems. If you have already applied power...and no smoke...that's good, but you should still do a good visual inspection of the inside....top and the underside. You are looking for melted/overheated wires, various capacitors leaking...especially the two tall high voltage power supply ones. These are readily visible on the top side..in the middle. Most of the time they are black...but I've seen some grey ones. Other things like, various critters that may have made a home in there. Since you have an 820, make sure that the "shorting plug" is in the 9 pin socket...or that holes 8 & 9 are jumpered together...if it is not there...the radio won't work.
There is an explanation regarding this on the manual.
If you are in an area that has a radio club...go make friends..I'm sure they'd be happy to help
you.

73 Joe
WB7UQU

On Sunday, March 30, 2014 9:08 PM, "hillbillydlux76@yahoo.com" <hillbillydlux76@...> wrote:

>I will research a procedure for a dummy load test, as well as a tune up. I apologize for not following procedure in the post. Is there any specific thing (s) I need to look for with this being a older piece of equipment? Thanks again,
Mike M
>
>
>

48412. Re: [TS-520_820_530_830] Re: Band question...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-31 04:28:32 UTC
From: Joseph Stiles
Topic: 48407 Message: 48412

Mike,

Also, take a look at Ken Kemski-k4eaa web site...lots of real good info for the beginner including simplified "tuning instructions."

Take a look also at: www.wb4hfn.com more good info and good copies of manuals for free download

73 Joe
WB7UQU

On Sunday, March 30, 2014 9:23 PM, Joseph Stiles <stilesjoseph@...> wrote:

Mike,
>
> It would be helpful to know what you know about basic electronics and/or this radio in particular.
>A good basic "eyeball" inspection should be the first step BEFORE you turn on the power. You can avoid potential problems. If you have already applied power...and no smoke...that's good, but you should still do a good visual inspection of the inside....top and the underside. You are looking for melted/overheated wires, various capacitors leaking...especially the two tall high voltage power supply ones. These are readily visible on the top side..in the middle. Most of the time they are black...but I've seen some grey ones. Other things like, various critters that may have made a home in there. Since you have an 820, make sure that the "shorting plug" is in the 9 pin socket...or that holes 8 & 9 are jumpered together...if it is not there...the radio won't work.
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>you.
>
>
>
>
>73 Joe
>WB7UQU
>
>
>
>On Sunday, March 30, 2014 9:08 PM, "hillbillydlux76@..." <hillbillydlux76@yahoo.com> wrote:
>
>
>>I will research a procedure for a dummy load test, as well as a tune up. I apologize for not following procedure in the post. Is there any specific thing (s) I need to look for with this being a older piece of equipment? Thanks again,

Mike M
>>
>>
>>
>
>

48413. Re: [TS-520_820_530_830] Re: Band question...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-31 11:59:39 UTC
From: Bob Lazarow
Topic: 48407 Message: 48413

On 3/30/2014 10:53 PM, hillbillydlux76@... wrote:
>
> I will research a procedure for a dummy load test, as well as a tune
> up. I apologize for not following procedure in the post. Is there any
> specific thing (s) I need to look for with this being a older piece of
> equipment? Thanks again, Mike M
>
>
I hope you learn to enjoy the both hobby and the group. I have been
licensed now for about 55 years and still love it!

Yes, there is one thing I try to remind new comers about: Never forget
that there are LETHAL voltages inside your transceiver, and they don't
disappear immediately after the radio is turned off...even on receive!!
There are procedures to follow if you ever need to remove the covers for
discharging the high voltage capacitors safely. There is a meter on your
rig and one scale shows High Voltage....notice it goes up to over 900 volts!

Try to get a hold of an older, say pre-1975 ARRL Handbook. They had good
explanations for vacuum tube output sections and high voltage
explanations. Also how to tune one up. These radios are not "plug n' play" !

Have fun

Bob / WA2JAJ

48414. Re: [TS-520_820_530_830] TS-820 Where to start...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-31 12:03:59 UTC
From: CROOKS David
Topic: 48414 Message: 48414

Hi Mike?
First thing to do is find the SG switch on the back of the rig and make sure it's in the down position. Same with the HEATER switch on the front panel, bottom right.
This will prevent accidental transmission. Belt & braces.

Lethal voltages inside. Read the manual and have fun. We all had to start somewhere!

73 Dave f4eyk

48415. Re: [TS-520_820_530_830] Re: Band question...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-31 12:26:54 UTC
From: Mike W5RKL
Topic: 48407 Message: 48415

If Mike's basic electronic knowledge is lacking, may I suggest he check my website:

http://w5rkl.com/basic-electronic-videos/

I have a few basic electronic videos that show how to calculate resistance, current, and voltage in series, parallel, and series/parallel circuits using Ohms Law.

There's a video that shows how to calculate the cathode voltage based on a level of cathode current. You can change the cathode current to any value and perform the calculation as shown on the video to achieve different results. This video also shows how to calculate the voltage drop across the meter multiplying resistor, 3.3K in the case of the 520 and 820, and using that value to determine what the voltage will be that is applied to the IP meter.

Understand, when you watch the cathode IP meter circuit video that the 600 ohms used for the meter's internal resistance will vary some what from meter to meter and the cathode resistors, in real time, will not always be exactly 10 ohms. However, for the purpose of the video, the meter's internal resistance is assumed to be 600 ohms and the cathode resistors are assumed to be 10 ohms.

73
Mike W5RKL

On 3/31/2014 6:59 AM, Bob Lazarow wrote:
>
> On 3/30/2014 10:53 PM, hillbillydlux76@... wrote:
>> ?
>>
>> I will research a procedure for a dummy load test, as well as a tune
>> up. I apologize for not following procedure in the post. Is there any
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> I hope you learn to enjoy the both hobby and the group. I have been
> licensed now for about 55 years and still love it!
>
> Yes, there is one thing I try to remind new comers about: Never forget
> that there are LETHAL voltages inside your transceiver, and they don't
> disappear immediately after the radio is turned off...even on
> receive!! There are procedures to follow if you ever need to remove
> the covers for discharging the high voltage capacitors safely. There
> is a meter on your rig and one scale shows High Voltage....notice it

> goes up to over 900 volts!
>
> Try to get a hold of an older, say pre-1975 ARRL Handbook. They had
> good explanations for vacuum tube output sections and high voltage
> explanations. Also how to tune one up. These radios are not "plug n'
> play" !
>
> Have fun
>
> Bob / WA2JAJ
>
>
>
>
>

48416. Re: [TS-520_820_530_830] Re: Band question...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-31 12:44:25 UTC
From: <hillbillydlux76@...>
Topic: 48407 Message: 48416

Thanks a ton, I bought a book on basic electronics because yes I am new to all of this. I will be sure to look at the videos. I've also located a amateur radio club in Genesse County Michigan. I reside in this county. Not to get off subject of the Kenwood but is there a basic affordable model of radio one might suggest. I am getting the impression that perhaps I have a huge learning curve... thanks again Mike M

48417. Re: [TS-520_820_530_830] Re: Band question...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-31 13:04:41 UTC
From: Mike W5RKL
Topic: 48407 Message: 48417

Hi Mike,

I'm not sure I understand what you are asking when you say,

"is there a basic affordable mode of radio one might suggest"

Also, may I suggest an excellent and easy to read book on learning electronics, including vacuum tubes. You will need to have a solid understanding of vacuum tube theory especially when troubleshooting the driver and final amplifier. The book I am referring to is

Basic Radio Course by John T. Frye

This book is out of print but it can be found quite often at your local public library, on the web, and on eBay. There is a seller on eBay who is selling this book burnt to a CD for, if I remember correctly, $9.99 plus a few dollars shipping. I highly recommend it. The seller on eBay is selling the 1951 edition of the book but the date doesn't diminish the subject matter at all.

You also might look at a used book store, that's where I found my hard cover copy for $2.00.

As Dave said, older copies of the ARRL handbook are also good learning tools.

Another source is William Orr's Radio Handbook. You can find that book on eBay.

73
Mike W5RKL

On 3/31/2014 7:44 AM, hillbillydlux76@... wrote:
>
> Thanks a ton, I bought a book on basic electronics because yes I am
> new to all of this. I will be sure to look at the videos. I've also
> located a amateur radio club in Genesse County Michigan. I reside in
> this county. Not to get off subject of the Kenwood but is there a
> basic affordable model of radio one might suggest. I am getting the
> impression that perhaps I have a huge learning curve... thanks again
> Mike M
>
>

48418. Re: [TS-520_820_530_830] Re: Band question...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-31 13:10:51 UTC
From: Mike W5RKL
Topic: 48407 Message: 48418

I forgot the mention, you will need some test equipment. If you have never used test gear such as VTVMs, signal generators, frequency counters, then I suggest you watch my video that covers basic test equipment. All of the test equipment shown in that video was purchased on eBay, except for the calculator.

I also have a video that shows a simple series circuit (resistors in series across a 12 volt source), that shows how to calculate and use a DMM to measure the voltage drop across a resistor and the voltage that will be present at the junction of 2 resistors. Unfortunately my camera quality doesn't allow the resistors to show up but trust me, no I'm not a use car salesman, the resistors discussed in the video are actually there.

http://w5rkl.com/wp-content/uploads/2014/03/Using-basic-test-equipment-to-measure-voltage-and-current.wmv

73
Mike W5RKL

On 3/31/2014 7:44 AM, hillbillydlux76@... wrote:
>
> Thanks a ton, I bought a book on basic electronics because yes I am
> new to all of this. I will be sure to look at the videos. I've also
> located a amateur radio club in Genesse County Michigan. I reside in
> this county. Not to get off subject of the Kenwood but is there a
> basic affordable model of radio one might suggest. I am getting the
> impression that perhaps I have a huge learning curve... thanks again
> Mike M
>
>

48419. Kenwood mic connector tip

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-31 13:31:21 UTC
From: <crgrbrts@...>
Topic: 48419 Message: 48419

This past weekend my TS-530S began acting silly. Suddenly, the T/R relay started to chatter incessantly, the problem exacerbated by switching modes during the tune-up process or touching the MC-50 microphone's connector (a clue!!).

As one might suspect, the culprit was, indeed, the mic connector. A disassembly and inspection revealed a loose PTT wire with maybe a wire strand or two left soldered while the rest of the wire strands were free to flop around, making tentative contact with the connection next door. The remainder of the connections pretty tenuous, too.

The cure, obviously, was to re-solder the mic cable and connector. What could be easier?

Yeah, well, I suppose it's easy if you're a world renown neuro or vascular surgeon, but for an old hand (literally) like me, the operation is-- shall we say -- a "challenge." The four mic cable wires in question seem to be about 28 gauge with mysterious, nearly microscopic nylon filaments intertwined with the thinner-than-human-hair copper wire strands. If one is to achieve a good soldered connection, these filaments must be separated from the wire strands and removed. This process is tedious and "fiddly" but not unduly difficult. The real challenge is soldering the very thin wires onto their respective connections. The wires tend to flop about as the mic connector body skitters away. While an apparatus such as a Panavise parts holder can be a huge help in stabilizing the components, there is another way, courtesy of a little tool I found purely by chance at my local hardware store this weekend.

While perusing a hanging display near the store's checkout counter, I spied a thingie called a "Heat Resistant Soldering Tweezer" distributed by the ubiquitous Enkay company of Brooklyn, NY. This nifty $3.00 tool acts as a mini clamp to hold the wire to be soldered onto its connection. Solder does not adhere to it, so the connection can be made very easily and securely with little of a cold solder joint resulting. Oh, I keep the mic connector in place on my work table by simply taping it down. Even with a Panavise parts holder pr similar apparatus to hold the mic cable and connector in place, the soldering tweezer can be very useful.

(This is not a plug, but) Enkay publishes a 40-something page catalog of cool stuff. It can downloaded from their Enkayproducts.com website.

73,
Craig
W3CRR

48420. Re: Kenwood mic connector tip

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-31 14:01:02 UTC
From: Craig Roberts
Topic: 48419 Message: 48420

I meant to say "...with little CHANCE of a cold solder joint resulting."

(I also meant to say: "The remainder of the connections WERE pretty tenuous, too.").

To make this post even marginally worthwhile, here's another handy hint (though I've passed this one along before). To clean tube sockets -- such as those under our 12BY7 and 6146 valves -- use "interdental brushes" moistened with DeoxIT or other favored contact cleaner. These tiny nylon brushes are mounted on flexible wire shafts, making them perfect for cleaning sockets and hard-to-reach contacts. They're readily available in the dental care aisles of pharmacies.

These are typical of what I'm talking about. I use the little disposable ones packaged in the multi-packs:

http://www.gumbrand.com/between-teeth-cleaning/interdental-brushes.html

73,

Craig
W3CRR

48421. Re: [TS-520_820_530_830] Re: A B swith....

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-31 14:51:57 UTC
From: Craig Roberts
Topic: 48392 Message: 48421

The latest issue of QEX magazine -- an ARRL publication -- contains an interesting article by Michael Dzado, AC0HB.

The title and subtitle tell all:

"An Eight Channel Remote Control Antenna Selector: Select between eight antennas or feed one antenna to any of up to eight radios. With better than 70 dB of port-to-port isolation, you can be sure the signal is going where you want it to."

If you're an ARRL member you can download this as a "sample article" in PDF format by visiting the QEX webpage on the ARRL.org site.

73,

Craig
W3CRR

48422. Re: [TS-520_820_530_830] Re: A B swith....

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-03-31 15:24:03 UTC
From: Mark Gilger
Topic: 48392 Message: 48422

Very nice article Craig. Thanks.

Mark, WB0IQK

At 10:51 AM 3/31/2014, Craig Roberts wrote:
>
>
>
>The latest issue of QEX magazine -- an ARRL
>publication -- contains an interesting article by Michael Dzado, AC0HB.
>
>The title and subtitle tell all:
>
>"An Eight Channel Remote Control Antenna
>Selector: Select between eight antennas or feed
>one antenna to any of up to eight radios. With
>better than 70 dB of port-to-port isolation, you
>can be sure the signal is going where you want it to."
>
>If you're an ARRL member you can download this
>as a "sample article" in PDF format by visiting
>the QEX webpage on the ARRL.org site.
>
>73,
>
>Craig
>W3CRR
>

48423. ts530s drive tube voltage, alc pegging, high idle plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-01 01:11:50 UTC
From: ira parker
Topic: 48423 Message: 48423

Meter shunt resistors replaced, idle plate set at 60ma, pin 5 final tubes -104 rx -59.9 tx.

3.2 volts connector 11 pin 5 rf1 on af board, connector 9 pin 1 alc from q31 2.59 volts.
if board connector 14 pin 1 alc from af 2.59 volts
to bring both pin 1 voltages up to 3.2 volts pin 5 is at 3.8 volts, left pin 5 at 3.2 volts via vr3. vr3 is smooth thru adjustment.
when I raised pin 5 voltage to 3.8 volts receive audio came up with it.

receive works great on all bands, s meter functions as it should, reduction of rf gain brings s meter to full scale plus.
once I set idle plate at 60ma turned off sg switch and heaters, all voltages on usb meter on lp
now I have no alc.

thanks,
Ira L. Parker
kk4tuo

48424. Re: [TS-520_820_530_830] ts530s drive tube voltage, alc pegging, high idle plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-01 11:33:32 UTC
From: Mike W5RKL
Topic: 48423 Message: 48424

Ira,

I could be wrong but it appears you are saying that you set the SG and Heater switches to OFF and now you are saying you have no ALC, assuming with the transmitter keyed in TUNE mode. Is this correct?

73
Mike W5RKL

On 3/31/2014 8:11 PM, ira parker wrote:
> Meter shunt resistors replaced, idle plate set at 60ma, pin 5 final
> tubes -104 rx -59.9 tx.
>
> 3.2 volts connector 11 pin 5 rf1 on af board, connector 9 pin 1 alc
> from q31 2.59 volts.
> if board connector 14 pin 1 alc from af 2.59 volts
> to bring both pin 1 voltages up to 3.2 volts pin 5 is at 3.8 volts,
> left pin 5 at 3.2 volts via vr3. vr3 is smooth thru adjustment.
> when I raised pin 5 voltage to 3.8 volts receive audio came up with it.
>
> receive works great on all bands, s meter functions as it should,
> reduction of rf gain brings s meter to full scale plus.
> once I set idle plate at 60ma turned off sg switch and heaters, all
> voltages on usb meter on lp
> now I have no alc.
>
> thanks,
> Ira L. Parker
> kk4tuo
>

48425. Re: [TS-520_820_530_830] Kenwood high breeds

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-01 11:36:15 UTC
From: CROOKS David
Topic: 48425 Message: 48425

News flash :
'UNO declares beam anteneas illeagal. Kenwood electron pumps coupled to photon projectors, heat the ionosphere unduly and contribute to global warming.'
73 Ken Wood f4eyk
P.S. Happy April Fool's Day

48426. Re: ts530s drive tube voltage, alc pegging, high idle plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-01 12:14:24 UTC
From: Terry Wagoner
Topic: 48423 Message: 48426

Ira I work with many people at the same time so hard to keep my rigs straight as time elapses between email exchanges.

OK when you say you have 2.59vdc on Conn 14 Pin 1 on IF board rig need to know what conditions this measurement is made at. Heaters on, Tune mode, Flip to Send. CAR Level pot advanced, Drive control peaked.

If you have RF1 adjusted to 3.2vdc then you should see approx 2.6 vdc on the AGC and ALC bus at the respective molex connector pins on the IF board. The reason is due to the impedance of your meter pulling the bus voltage down. When you key the rig if there is correct RF drive and control grid operating bias the ALC bus will drop from 2.6vdc to approx 2.0vdc and the meter will drive up scale.

The meter circuit Q7/Q8 is shared in receive and transmit. In receive mode RL-1 contacts measure the AGC bus voltage and in transmit the contacts switch and measure this ALC voltage supplied from Conn 14 Pin 1. If you have good S-meter action in receive mode it tells you that the relay normally closed contact is good. If you have no ALC indication in Tune mode while loading the rig and you do have approx 2vdc at Conn 14 Pin 1 then it means the normally open contact of RL-1 is dirty/bad. RF drive is producing positive grid current and turning on Q31 ALC amp and pulling the ALC bus voltage down, but the meter doesnt see it as relay contact doesnt power the meter circuit (the gate of Q7 FET).

So I dont understand your final sentence. It sounds like the AGC bus is powered as it should be from RF-1 as evidenced by good S meter action and proper RF gain action. When you measure AGC bus your test meter (dmm?) pulls the voltage down from the 3.2vdc level that you have set RF-1 to and that is normal. Test meter wont pull RF-1 down as it is a low Z power supply.

You then state you can set zero signal resting plate current to 60ma (that is good). The rest of your sentence makes no sense to me. You turned off SG switch, you turned off the Heaters. You then say all voltages on USB. Are you trying to say you measured the final tube cut off and operating bias voltages in USB position of the mode switch and the meter in the Ip position? Doesnt matter what position the meter select switch is in to take voltage readings. I take voltage readings in CW mode as that is where KW took them that you see on the schematics.

I have tried to tell you the things you need for ALC indication to load rig in TUNE mode.

1. Must have operational bias of approx -60vdc.
2. Must have rf drive voltage that exceeds that level of dc bias offset on the positive going peaks for the envelope. Must have positive grid current to cause ALC amp Q31 to pull down the ALC bus voltage.
3. Must have RF-1 voltage set approx 3.2vdc
4. Must have ALC bus voltage supplied to IF board Conn 14
5. Must have good RL-1 relay contacts
6. Must have good Meter driver circuit (we know you have that as the S-meter works in Rx mode).

The typical reasons for no ALC indications in Tune mode are bad RL-1 relay contacts and/or low RF drive level to control grids of the finals. Low RF drive can be bad driver tube or bad band switch contacts. If no ALC on any band not likely the bandswitch.

Go thru this list and check off what you know for certain that you have.

For ALC indication you do not need the SG switch turned on. You can test ALC with Heaters on , Mode switch CW, CAR pot full clockwise, Flip to Send, Drive control peaked. If no ALC indication then check steps above. You report that you have 1, 3, 4 , and 6. I do not know about 2 or 5. Number 2 requires VTVM/RF probe or O-scope. 5 is not easy to clean the contacts and typically will not last very long if you do.

Terry K9TW
On Monday, March 31, 2014 9:11 PM, ira parker <ira.parker@...> wrote:

Meter shunt resistors replaced, idle plate set at 60ma, pin 5 final tubes -104 rx -59.9 tx.

3.2 volts connector 11 pin 5 rf1 on af board, connector 9 pin 1 alc from q31 2.59 volts.
if board connector 14 pin 1 alc from af 2.59 volts
to bring both pin 1 voltages up to 3.2 volts pin 5 is at 3.8 volts, left pin 5 at 3.2 volts via vr3. vr3 is smooth thru adjustment.
when I raised pin 5 voltage to 3.8 volts receive audio came up with it.

receive works great on all bands, s meter functions as it should, reduction of rf gain brings s meter to full scale plus.
once I set idle plate at 60ma turned off sg switch and heaters, all voltages on usb meter on lp
now I have no alc.

thanks,
Ira L. Parker
kk4tuo

48427. Re: [TS-520_820_530_830] ts530s drive tube voltage, alc pegging, high idle plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-01 12:25:54 UTC
From: <wagstw46@...>
Topic: 48423 Message: 48427

Mike:

Sorry I read Iras post on my email and didnt realize he had posted this. I thought he was giving me feedback on some questions I had previously asked him. I got him mixed up with off reflector folks I am trying to help. Need to look at reflector first. I will back away as too busy right now. I try not to abandon those who contact via email, but he clearly is not one of those folks.
Terry K9TW

48428. Re: [TS-520_820_530_830] ts530s drive tube voltage, alc pegging, high idle plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-01 13:51:23 UTC
From: Mike W5RKL
Topic: 48423 Message: 48428

No problem Terry. I didn't understand what Ira was saying.

Ira, I could be wrong but from what I read in your posts it appears you turned both the SG and Heater switches OFF. If this is what you actually did then the reason you don't see any ALC is because you turned the "HEATER" switch OFF. If the Heater switch is turned ON but the SG switch is set to OFF you will still see ALC.

73
Mike W5RKL

On 4/1/2014 7:25 AM, wagstw46@... wrote:
>
> Mike:
>
>
> Sorry I read Iras post on my email and didnt realize he had posted
> this. I thought he was giving me feedback on some questions I had
> previously asked him. I got him mixed up with off reflector folks I am
> trying to help. Need to look at reflector first. I will back away as
> too busy right now. I try not to abandon those who contact via email,
> but he clearly is not one of those folks.
> Terry K9TW
>

48429. ts530 driver tube voltage no alc

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-01 12:05:39 UTC
From: ira parker
Topic: 48429 Message: 48429

All the voltage test were done with the sg off and heaters off. alc was checked with sg on and heaters on in tune mode.

48430. signature

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-01 12:12:50 UTC
From: ira parker
Topic: 48430 Message: 48430

oops forgot signature on last post. 40 weight hasn't kicked in yet.

Ira L. Parker
kk4tuo

48431. Re: [TS-520_820_530_830] ts530s drive tube voltage, alc pegging, high idle plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-01 13:58:56 UTC
From: Craig Roberts
Topic: 48423 Message: 48431

Unplugging the radio has the same effect -- no ALC reading :-)

Hey! Who's going to Dayton? I'll be manning a booth for The American Legion Amateur Radio Club (http://www.legion.org/hamradio) and will certainly be attending the Kenwood forum.

73,

Craig
W3CRR

48432. Re: [TS-520_820_530_830] Kenwood high breeds

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-01 15:07:50 UTC
From: jpr3232819@...
Topic: 48425 Message: 48432

That may seem like and April fools joke now but maybe not in the near future

AK4ND

In a message dated 4/1/2014 7:39:00 A.M. SA Western Standard Time, dave.crooks@... writes:

News flash :
'UNO declares beam anteneas illeagal. Kenwood electron pumps coupled to photon projectors, heat the ionosphere unduly and contribute to global warming.'
73 Ken Wood f4eyk
P.S. Happy April Fool's Day

48433. TS-520 MOSFET

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-01 17:02:38 UTC
From: <chastizer4@...>
Topic: 48433 Message: 48433

I'm new to the group and want to say thanks for all the great info available. I'm working on a 520 belonging to a local ham. My test equipment includes a VOM and an O-scope which I'm still learning to use. I have a couple of generic questions:

Can someone tell me what the designations (Y), (GR), etc. indicate on the 3SK35 MOSFET's? The NTE cross-reference pointed all to the NTE222. Dots on top seem to coincide with color.

Also, when checking voltages per section 8 of the Op Manual, are these all with reference to ground as opposed to one lead to another?

I'm quickly becoming another fan of the Kenwood Hybrids!
Thanks again,
Charlie - AC6ZX

48434. Kenwood TS-520SE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-01 18:11:29 UTC
From: <tghotdogz@...>
Topic: 48434 Message: 48434

Hello again group.
I know this is probably a long shot, but here goes. I recently acquired a TS-520SE. While going through it, I found the slugs and the actual coil forms themselves destroyed on some of the ANT Coil Unit coils - looks like excessive heat was applied to the coils.
So I'm in need of the 160 meter and 80 meter coils on the Ant Unit Board - I believe they are designated as L1 and L2. If anyone has these around in their junk box, (or the whole board for that matter), I'd very much like to hear from you.
Regards
Tom
W7OA
Reno, NV

48435. Re: [TS-520_820_530_830] TS-520 MOSFET

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-01 19:52:37 UTC
From: Jim Lamanteer
Topic: 48433 Message: 48435

CHARLIE NOT SURE WHAT THE LETTER SIGNAFIES SOME JAPANESE RATING PROBLY, BUT YES ALL VOLTAGES ARE IN RESPECT TO GROUND. HOPE THIS HELPS. JIMMY WB2KNR

From: "chastizer4@yahoo.com" <chastizer4@...>
To: TS-520_820_530_830@yahoogroups.com
Sent: Tuesday, April 1, 2014 1:02 PM
Subject: [TS-520_820_530_830] TS-520 MOSFET

I'm new to the group and want to say thanks for all the great info available. I'm working on a 520 belonging to a local ham. My test equipment includes a VOM and an O-scope which I'm still learning to use. I have a couple of generic questions:

Can someone tell me what the designations (Y), (GR), etc. indicate on the 3SK35 MOSFET's? The NTE cross-reference pointed all to the NTE222. Dots on top seem to coincide with color.

Also, when checking voltages per section 8 of the Op Manual, are these all with reference to ground as opposed to one lead to another?

I'm quickly becoming another fan of the Kenwood Hybrids!
Thanks again,
Charlie - AC6ZX

48436. Re: TS-520 MOSFET

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-01 20:53:27 UTC
From: <wagstw46@...>
Topic: 48433 Message: 48436

Charlie :

The designators are important and not just hieroglyphics!

They tell you what the Idss rating is for the FET. Idss is the maximum drain current with zero gate bias.

Y is the lowest, then GR, then BL. For example for a 2SK19 the designators are as follows:

Y = 7ma Idss
GR = 14ma Idss
BL - 24ma Idss

So when replacing one with a NTE sub you can just trust that they have done there homework and that the cross reference is conservative for all operating parameters or you can look at the data sheet for the original mosfet you are wanting to replace and make sure sure the sub meets and exceeds the Idss rating. I prefer to study the data sheet if can find one.

As far as experience goes I have had good luck using the NTE subs. I also use NOS 40673s for the RF amps and they work well.

Terry K9TW

48437. Flickering/Stuck LCD

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-01 21:08:33 UTC
From: Les Nadon
Topic: 48437 Message: 48437

Hi - 1st post here, recent subscriber the last few months, but an avid reader. I have new to me TS-820s from the usual auction site. It seems to work real well (though I've not been able to test other than with a dummy load - no license yet, this weekend I will be passing the exams). The seller was right up front with the one problem that the rig has - the LCD kind of flickers, kind of not displays the correct read out until it warms up, about 5 minutes. Then, it works just fine. This happens no matter what band is selected. The display will read 9.1XX.X, 19.1XX.X or 29.1XX.X, no matter what you do. I.E., if 14 MHZ is selected with the band switch, the display actually reads 19.1XX.X (where XX.X is either a 0, 1, or 2 - nothing else). Ditto for 21 or 28 MHZ, read out is 29.1XX.X.

The seller assures me that the radio works fine in this condition, just the read out "flickers" until it warms up. I verified the correct read outs after about 5 minutes.

Any ideas why? Dirty switch? Something else as simple, hopefully?

Les
(No License Yet)

48438. DDS VFO update, new version

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-01 21:47:57 UTC
From: <cocobean64@...>
Topic: 48438 Message: 48438

Updated the software to include a power/swr meter. Select-able power levels (160, 320, 600, 960,1280, 1600) for the meter.
Uses a Wavenode HF-1 coupler....
5 memory channels.....
5 or 7 inch screen (this pictured in photo section is 5)
Direct frequency entry via usb keypad.....

73
Bart

48439. Re: [TS-520_820_530_830] Re: TS-520 MOSFET

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-02 01:16:07 UTC
From: Ron
Topic: 48433 Message: 48439

Glad u asked the question a thanks Terry again for your time to explain. I gained more knowledge I didn't know !!!

Ron KK4PWF

On Apr 1, 2014, at 3:53 PM, <wagstw46@...> wrote:

>
>
> Charlie :
>
> The designators are important and not just hieroglyphics!
>
> They tell you what the Idss rating is for the FET. Idss is the maximum drain current with zero gate bias.
>
> Y is the lowest, then GR, then BL. For example for a 2SK19 the designators are as follows:
>
> Y = 7ma Idss
> GR = 14ma Idss
> BL - 24ma Idss
>
> So when replacing one with a NTE sub you can just trust that they have done there homework and that the cross reference is conservative for all operating parameters or you can look at the data sheet for the original mosfet you are wanting to replace and make sure sure the sub meets and exceeds the Idss rating. I prefer to study the data sheet if can find one.
>
> As far as experience goes I have had good luck using the NTE subs. I also use NOS 40673s for the RF amps and they work well.
>
> Terry K9TW
>
>
>

48440. ts530 driver voltage,no alc

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-01 23:29:52 UTC
From: ira parker
Topic: 48440 Message: 48440

Hi Terry and Mike,
Sorry for any confusion. I ask about posting to the reflector or sending e-mail direct to you. Your answer was to use the reflector unless the thread got to long or parochial. Hence I posted to the reflector and copied to you also. In the future I will post to the reflector only to keep the confusion down I know your a very busy man. ok. back to the problem at hand.

Previous e-mail:
terry= test af board conn 11 pin 5 rf1 on (3.2 volts), conn 9 pin 1 alc from q31 (2.59 volts), test If board conn 14 pin 1 alc from af (2.59 volts)
These voltages were tested using a dvm (10meg input impedance) in usb mode, htr off, sg off, meter lp. Then set mode to tune, htr on, sg on, meter to alc, peaked drive for max s meter deflection in rx, flipped to send no alc.

previous post reflector:
I think the first part of this post answers yours and mikes first questions. Second part 1-6.
1) 60ma
2) ? pretty sure I have an rf drive issue we'll get to that.
3) 3.2 volts
4) 2.59 volts (draw down dvm)
5) new rl1 relay from k4eaa
6) good s meter all bands, full scale deflection rf gain at min

final and driver tubes purchased from escr in Orlando. Getting to the rf drive problem, are there any other voltages I should check before starting to test for rf via the level diagram that will confirm this, like maybe the driver tube pin volts or other readings on connectors of the if,af or rf boards. I've got access to a o-scope waiting on model number to see if it will cover hf freqs and if the probes are with it. I'm soldering up a rf probe for my dvm also .01 cap, diode and 4.7 megaohm resistor. Not sure how accurate it will be but should be able to trace some until I get the scope. When tracing the rf should I be in cw, htrs on, sg off, car 12:00, drive 12:00?

Thanks once again for your patience and understanding

Ira L. Parker
kk4tuo

48441. Re: [TS-520_820_530_830] Flickering/Stuck LCD

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-02 02:54:21 UTC
From: Joseph Stiles
Topic: 48437 Message: 48441

Les,

Best of luck on your exam...you sound very confident that you ARE going to pass.

It sounds that you may have a problem in the DG-1 unit. That's the box that the digital display is plugged into. It has plagued many an 820S owner. Sounds like it's a thermal problem regarding one or both of the boards in the unit. I had a problem very similar to your on an 820S here, display refused to work correctly...showing 9.000 or 19.000 or 29.000 until it got warm..then started working fine. First, I would try removing the DG-1
unit. Make sure rig is OFF and UNPLUGGED...and check for HV around the HV power supply caps...the two round things..kind of in the middle of the rig...just to be safe..as there could be 900VDC lurking..as well as some lower but just as dangerous volts around.

Make sure to have some contact cleaner available. Remove and open up the unit, you will notice 1 board on each side...they are connected by "through pins." Remove the boards and clean ALL contact and pin surfaces. BE very careful when removing...as they can be a bit stubborn.
Make sure when re-assembling that each board goes back to where it originally came from. Reassemble and try out unit. It may now work just fine. If not, then you will have to do a bit
more surgery, soldering wires through about 18 or so "through holes" on the counter board. No difficult..just a pain. Kenwood put out a service bulletin about this many years ago.

My display was fixed after soldering wires in the "through holes."
The display is not necessary for your rig to operate properly.

73 Joe
WB7UQU

On Tuesday, April 1, 2014 2:30 PM, Les Nadon <les@...> wrote:

>Hi - 1st post here, recent subscriber the last few months, but an avid
>reader. I have new to me TS-820s from the usual auction site. It seems
>to work real well (though I've not been able to test other than with a
>dummy load - no license yet, this weekend I will be passing the exams).
>The seller was right up front with the one problem that the rig has -
>the LCD kind of flickers, kind of not displays the correct read out
>until it warms up, about 5 minutes. Then, it works just fine. This
>happens no matter what band is selected. The display will read 9.1XX.X,
>19.1XX.X or 29.1XX.X, no matter what you do. I.E., if 14 MHZ is
>selected with the band switch, the display actually reads 19.1XX.X
>(where XX.X is either a 0, 1, or 2 - nothing else). Ditto for 21 or 28
>MHZ, read out is 29.1XX.X.
>
>The seller assures me that the radio works fine in this condition, just
>the read out "flickers" until it warms up. I verified the correct read

>outs after about 5 minutes.
>
>Any ideas why? Dirty switch? Something else as simple, hopefully?
>
>Les
>(No License Yet)
>
>
>
>

48442. Re: [TS-520_820_530_830] Kenwood TS-520SE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-02 02:59:37 UTC
From: Joseph Stiles
Topic: 48434 Message: 48442

Tom,

Sorry to here that. Those part may be very difficult to find. If not done already you can contact
Bob Mansker: ke5ftf "at mail dot com" He keep a good stash of parts of various KW rigs. No junk...fair prices...but this may be a tall order...good luck

73 Joe
WB7UQU

On Tuesday, April 1, 2014 11:35 AM, "tghotdogz@..." <tghotdogz@charter.net> wrote:

>Hello again group.
>I know this is probably a long shot, but here goes. I recently acquired a TS-520SE. While going through it, I found the slugs and the actual coil forms themselves destroyed on some of the ANT Coil Unit coils - looks like excessive heat was applied to the coils.
>So I'm in need of the 160 meter and 80 meter coils on the Ant Unit Board - I believe they are designated as L1 and L2. If anyone has these around in their junk box, (or the whole board for that matter), I'd very much like to hear from you.
>Regards
>Tom
>W7OA
>Reno, NV
>
>
>
>

48443. Re: ts530 driver voltage,no alc

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-02 12:26:56 UTC
From: <wagstw46@...>
Topic: 48440 Message: 48443

Ira:

OK I dont remember telling you to copy me on email, but if I did I should not have.

What I meant to say sometimes if the thread gets too long or as you say of very narrow interest to a small audience or you are not getting the help you need here it is OK to email me off the reflector. To your issue:

1. Did you try with the CAR LEVEL POT advanced full CW ? If not do so.

2. Your homemade RF probe if configured like the N5ESE design will be accurate enough for TX Level diagrams. Really need a single diode and a 3 diode probe.

3. The TX level diagram is best run on 14.2mhz in CW mode with the SG switch off and the Heaters on. Can be run on 3.5 or 7 mhz if you have low bandwidth scope.

4. Best to first load to full 100 watts out if you can and then flip SG switch off and run TX level diagrams as you then will have the Mixer and Drive tuned circuits peaked. If cant load then just peak the Drive control in Rx mode or use the Marker signal.

5. Can start at TIF output at the IF board and work way to the control grids of the finals or just start at the control grids and work back to TIF amp. A quick check at the 6146 control grids would include measuring the dc operating bias voltage and then the RF drive voltage. Must have proper delta for grid current and ALC indication. Should see approx 45 to 47 rms rf volts. Should use a 3 diode probe or O-scope to measure the RF voltage at control grids or plate of the driver tube as the level is too high for a single diode probe and will burn out your probe. You wont be able to measure TIF with your RF probe as it is low approx 10mv. Should be able to read it with your O-scope.

6. YES you can measure DC voltages at the Driver tube and the Finals absent an RF probe or scope, but easiest way to trouble shoot loss of ALC indication and/or loss of RF output is to measure RF voltages and where you find them missing or low then reach for DMM or VTVM and check dc voltages at that device. Best way to measure Driver tube voltages is with a Pomona test socket. Absent that you can pull the tube and take the measurements in the socket pins. Be careful as you have 350vdc close to base of the tube.

7. If you have approx 2.6vdc to 2.9vdc ALC voltage (will be lower than 3.2 RF-1 due to the meter you are using) at the IF board Conn 14 and a new RL-1 relay installed you should have required dc control voltage at Gate 2 of your Q2 TIF amp mosfet and should have 8.830mhz TIF signal at output of the IF board Conn 6 and input at the RF board Conn 7 unless you have bad/dirty molex connector at either place. Can carefully pull and clean these two connectors.

This is about as far as I can take you. Mike W5RKL and Dave VK5PDL have the knowledge and experience to help you. Dave owns and works on TS530s.

I am swamped with work here at the moment so cant commit much time here.

Terry K9TW

48444. TS-530

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-02 10:48:32 UTC
From: GREG KRASHOC
Topic: 5014 Message: 48444

I need some help with my TS-530. I was using it on Sunday and made 13 contacts, I came back on Monday to try my luck again
but I could not tune up. I made sure all the switches were in the right position and made sure the SG switch was on, when I tried to
peak the drive control there was no meter movement I tried other bands with no luck same problem on all. Any help with this issue
would be greatly appreciated.

73,Greg
KA8ULT

48445. Re: [TS-520_820_530_830] TS-530

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-02 13:16:42 UTC
From: Mike W5RKL
Topic: 5014 Message: 48445

Greg,

What pieces of test equipment do you have? You will need more than a cheap hardware store VOM to service your TS-530.

What level of electronic knowledge do you have?

What troubleshooting and repair skills do you have?

Do you have the TS-530 operator and service manuals and if so have you studied them?

Have you checked to ensure the IP meter indicates 60ma of idling current with the transmitter keyed in USB or LSB mode? This will tell whether current is flowing the final tubes or not.

Have you checked the group's "File" section, searched the message archieves for similar problems other members have had using the group's search feature? You have to log onto the group's homepage to use these features, you can't do it through email.

73
Mike W5RKL

On 4/2/2014 5:48 AM, GREG KRASHOC wrote:
> I need some help with my TS-530. I was using it on Sunday and made 13
> contacts, I came back on Monday to try my luck again
> but I could not tune up. I made sure all the switches were in the
> right position and made sure the SG switch was on, when I tried to
> peak the drive control there was no meter movement I tried other bands
> with no luck same problem on all. Any help with this issue
> would be greatly appreciated.
>
> 73,Greg
> KA8ULT
>

48446. Re: TS-530

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-02 13:45:07 UTC
From: <krashoc@...>
Topic: 5014 Message: 48446

Thanks for the reply Mike.
I have a fluke 87 and a Triplet 630 I was an industrial electrician for a few years did not do much with electronics. I do not have user or service manual at this point. There is 60+ma of idle current on both USB and LSB in send position. I have not checked with the archive on this web site, I just found this web site this morning, but will start to look for similar problems in the archive. I was wondering if the drive tube might be NG.
73,Greg
KA8ULT

48447. TS-520 S S-Meter deflects full scale and stays there, when set to receive WWV

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-02 17:33:37 UTC
From: Henry Stephan
Topic: 48447 Message: 48447

Dear Members

I hope you can assist me.

I have a TS-520 S with an S-meter fault only whilst using WWV. When using the traditional ham bands, the S-meter works correctly.

On the other hand however, when WWV is selected, its needle immediately deflects completely across to the right hand side of the meter. It does not matter whether the AGC switch is set to slow, fast or off, with WWV it still deflects 100%.

However, with the AGC set to slow, it moves across slowly. With the AGC set to fast or off, it moves across quickly.

With the AGC line disconnected from the RF board, the problem disappears.

The connected AGC line into the RF board registers 3.0V, without RF signal, on each of the ham bands. With my signal generator connected, and an S9 deflection, the AGC line drops to 2.1v

In the case of WWV though, the AGC line sits permanently at 1.2 volts, even when my signal generator is connected.

I hope someone can assist in pointing me in the right direction of how to fix this fault.

Your help is greatly appreciated.

Best 73

Henry de ZS6MC

48448. RE: [TS-520_820_530_830] Kenwood TS-520SE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-02 16:43:55 UTC
From: Thomas Gugler
Topic: 48434 Message: 48448

Just to let everyone know, Bob Mansker came through again and found me an Ant Coil Board.

Regards

Tom

W7OA

this msg edited as it contained already posted material- Joe-WB7UQU

[Non-text portions of this message have been removed]

48449. Re: [TS-520_820_530_830] Re: TS-530

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-02 20:28:29 UTC
From: Mike W5RKL
Topic: 5014 Message: 48449

HI Greg,

It's possible the driver tube is bad. If you have a spare 12BY7 trying swapping the spare to see if the symptoms change. Since the IP meter indicates 60ma then we can assume the final tubes are conducting DC current.

You can download the operator and service manuals for the TS-530S at the following link:

http://w5rkl.com/kenwood-hybrid-operator-and-service-manuals/

Click on the manual link you want, the file will download in your browser. After the download completes, there are some small icons on the upper right corner, 4 of them plus 2 side by side arrows to the right that looks like this ">>". The icons I'm talking about are to the left of the arrows. Move you mouse over the icons until "download" shows up then click on that icon. This will load the manual into the Acrobate Adobe pdf file reader then all you have to do is save the manual to your hard drive. You will have to have the Adobe reader loaded onto your computer.

Once you have both operator and service manuals downloaded onto your computer then I recommend you spend some time reading them, especially the "Circuit Description" sections.

I have more manuals, TS-520, TS-820, and TS-830, plus others I plan on uploading to my website.

73
Mike W5RKL

On 4/2/2014 8:45 AM, krashoc@... wrote:
>
> Thanks for the reply Mike.
>
> I have a fluke 87 and a Triplet 630 I was an industrial electrician
> for a few years did not do much with electronics. I do not have user
> or service manual at this point. There is 60+ma of idle current on
> both USB and LSB in send position. I have not checked with the archive
> on this web site, I just found this web site this morning, but will
> start to look for similar problems in the archive. I was wondering if
> the drive tube might be NG.
>
> 73,Greg
>
> KA8ULT
>

>

48450. Re: TS-520 S S-Meter deflects full scale and stays there, when set to receive WWV

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-03 01:07:58 UTC
From: <wagstw46@...>
Topic: 48447 Message: 48450

Henry

Make sure that the Drain of Q2 Mixer does not have 14vdc in WWV position. Might also look at RIF output frequency and levels in Normal and WWV positions.

Terry K9TW

48451. Re: [TS-520_820_530_830] Re: TS-530

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-03 00:33:03 UTC
From: GREG KRASHOC
Topic: 5014 Message: 48451

Hi Mike,

Thanks for the manuals, this is my first radio I do not have a spare tube but I have ordered one online should be here in a few days.

I will let your know how I make out.

73, Greg
KA8ULT

From: Mike W5RKL <w5rkl@...>
To: TS-520_820_530_830@yahoogroups.com
Sent: Wednesday, April 2, 2014 4:28 PM
Subject: Re: [TS-520_820_530_830] Re: TS-530

HI Greg,

It's possible the driver tube is bad. If you have a spare 12BY7 trying swapping the spare to see if the symptoms change. Since the IP meter indicates 60ma then we can assume the final tubes are conducting DC current.

You can download the operator and service manuals for the TS-530S at the following link:

http://w5rkl.com/kenwood-hybrid-operator-and-service-manuals/

Click on the manual link you want, the file will download in your browser. After the download completes, there are some small icons on the upper right corner, 4 of them plus 2 side by side arrows to the right that looks like this ">>". The icons I'm talking about are to the left of the arrows. Move you mouse over the icons until "download" shows up then click on that icon. This will load the manual into the Acrobate Adobe pdf file reader then all you have to do is save the manual to your hard drive. You will have to have the Adobe reader loaded onto your computer.

Once you have both operator and service manuals downloaded onto your computer then I recommend you spend some time reading them, especially the "Circuit Description" sections.

I have more manuals, TS-520, TS-820, and TS-830, plus others I plan on uploading to my website.

73
Mike W5RKL

On 4/2/2014 8:45 AM, krashoc@... wrote:

>Thanks for the reply Mike.
>I have a fluke 87 and a Triplet 630 I was an industrial electrician for a few years did not do much with electronics. I do not have user or service manual at this point. There is 60+ma of idle current on both USB and LSB in send position. I have not checked with the archive on this web site, I just found this web site this morning, but will start to look for similar problems in the archive. I was wondering if the drive tube might be NG.
>73,Greg
>KA8ULT
>

48452. Ham gear manuals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-03 15:58:09 UTC
From: Mike W5RKL
Topic: 48452 Message: 48452

For those new members, and older members alike, who do not have and are looking for the operator and service manuals for their KW hybrid, I have uploaded the following KW hybrid manuals to my website:

1. TS-520 series (all 3 models) operator and service manuals
2. TS-820/TS-820S operator and service manuals
3. TS-530 operator and service manuals
4. TS-830 operator and service manuals

Included in the KW hybrid manuals are a couple of "high resolution" schematics which I highly recommend downloading and studying. You can find the manuals at the following link to my website. Once my home page comes up simply click on the link to the manual page and scroll down to find the appropriate manual you need:

www.w5rkl.com

I have additional manuals and schematics for other ham receivers, transmitters, transceivers, and test equipment I plan on uploading in the future.

73
Mike W5RKL

48453. Re: [TS-520_820_530_830] Re: TS-520 S S-Meter deflects full scale and stays there, when set to receive WWV

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-03 07:20:20 UTC
From: Henry Stephan
Topic: 48447 Message: 48453

Hi Terry

Thank you greatly for your reply. I will check tonight and inform you and the group, in respect of the outcome.

Best 73

Henry de ZS6MC

Sent from H's iPad

> On 03 Apr 2014, at 3:07 AM, <wagstw46@...> wrote:
>
> Henry
>
>
> Make sure that the Drain of Q2 Mixer does not have 14vdc in WWV position. Might also look at RIF output frequency and levels in Normal and WWV positions.
>
> Terry K9TW
>

48454. Re: [TS-520_820_530_830] Re: TS-520 S S-Meter deflects full scale and stays there, when set to receive WWV

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-03 16:19:53 UTC
From: Henry Stephan
Topic: 48447 Message: 48454

Hi Terry

No 14V on the Drain of Q2 Mixer in the WWV position.

All levels the same for both Normal Channels and WWV at the RIF output. Frequencies are also correct.

Any further suggestions, please?

Many thanks

Henry de ZS6MC

Sent from H's iPad

> On 03 Apr 2014, at 3:07 AM, <wagstw46@...> wrote:
>
> Henry
>
>
> Make sure that the Drain of Q2 Mixer does not have 14vdc in WWV position. Might also look at RIF output frequency and levels in Normal and WWV positions.
>
> Terry K9TW
>

48455. ts530 driver tube voltage, no alc

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-03 16:33:32 UTC
From: ira parker
Topic: 48455 Message: 48455

retested as terry suggested if board conn 14 pin 1 alc input from af q31 (2.59volts) car level min and max no change in voltage. terry also mentioned that this voltage should drop to (2.0 volts) in tx it doesn't stays at 2.59?
mode cw, heaters on, sg off, 14.175mhz, meter alc

I'm assuming q2 and q7 are good from previous test. Checked voltage on q18 (0 volts d,s,g) according to schematic it should have 9.8v,0v,1.3v in rx mode am I looking at this right?

thanks,
Ira L. Parker
kk4tuo

48456. Finals Question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-03 16:37:26 UTC
From: <les@...>
Topic: 48456 Message: 48456

As I was fixing another issue on my TS-820s (display problem - had to put a little heat on the pins inside the DG-1), I figured I'd take a poke around and see what's inside. About the only question I can come up with on everything, the finals look to be originals - S2001, Matshuita (hope I spelled that right).

I'm not licensed yet, so I cannot transmit at all right now, so all the testing and tuning has been done into a dummy load. All the results I see from the testing look to be okay - so I would assume that the finals are just fine as well? I have no desire to change them out unless I need to. From what I have read, those tubes can last forever as long as everything has been done right over the years.

Even though you do not have a license yet...the group rules/policies still require you to sign your
post(s) with your given/Christian name. Joe-WB7UQU

48457. Re: [TS-520_820_530_830] Nylon gear collar repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-03 17:01:48 UTC
From: Gregory Graham
Topic: 34493 Message: 48457

Will
Just going through some old email's and came on this one. Could not help but comment. I would like to say politely that your comments are about very old technology. 3D systems used the resin and laser process but there any many other processes that make up the market today. I have mostly used the FDM (Fused Deposition Modeling) process and the parts produced easy exceed the 5,000 psi rating. They are tough durable and long lasting. While 3D modeling is not profitable in mass production is sure is valuable in limited production items. Today they are printing composite materials as well as metal parts and they are wonderful and strong. No way would I produce any gun parts from any of these printing process, but there are many long term parts made from durable printed materials. i.e. printed hearing aid shells are custom made for a single persons ear and they sure last a long time. 3D printing has long had the name Rapid Prototyping and that has been one of the main uses of the technology. Making wax investment casting patterns, and medical parts for implants etc. make the process invaluable. Oh, and long term, well the custom mount for my UHF Mobil radio is a 3D printed part and it is 20+ years old and looks and works like new.
Anyway just a few comments.... hope all is well with you.

Gregory
NR6C

On 1/15/2014 11:03 PM, Wes Will wrote:
>
>
> > and stress on individual components) seems like copying a sprocket might
> > be a piece of cake. Then it could be tested to determine if it would
>
> The plastic resin used in 3-D printing is not exactly known for its
> lasting power. It tends to become brittle and sort of fall apart over
> time. The volatiles out-gas, and that means the plastic fails within a
> year or two, more often than not.
>
> (As for making firearms with these printers, I would not pull the
> trigger on one, the likelihood of eating the receiver as it comes apart
> in my hand would be much too great. The first shot, maybe you get away
> with it. Second and subsequent? Not on your tin-type. Not even on
> your Daguerro-type.
>
> The resins used in laser-cured 3-D printing just aren't THAT strong.
> It's fantastic for one-off prototyping, and within the constraints of
> the material and methods used to create things the 3-D printing

> technology is one of the more fantastic things technology has done for
> us in recent years. But it isn't perfect, and it really just isn't
> meant for long-term use parts. That's not a slam on the technology,
> just an admission of reality and the limits of plastic resins.)
>
> --
> Wes Will
> N9KDY
>
>

48458. Re: Finals Question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-03 17:24:26 UTC
From: <les@...>
Topic: 48456 Message: 48458

Yes - my oversight on the signature. Realized it as soon as I hit send.

Les

48459. Re: Flickering/Stuck LCD

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-03 17:48:49 UTC
From: <les@...>
Topic: 48437 Message: 48459

Joe, you sir - are a genius!! I do remember reading about this as I was skimming through all the service bulletins once, but it just did not click until I read your response. Reading all the bulletins with having the radio in front of me, I was just reading stuff, with no rhyme or reason of what it all meant - just storing info for later recall.

I just took out the DG-1, removed the board with all the ICs, gave it a good squirt with some cleaner (a lot of flux disappeared then). It may have work at that point, but I figured I'd just give each pin a quick warm up with the iron. At this point, if I am on track, I figured I would have a 50/50 shot of it working right. Put it all back together and everything is great now with this lovely rig!!! I am chomping at the bit for Saturday (testing day).

Oh, BTW - the 8 - 9 jumper on the external VFO is pretty important when testing, as I found out - a little rookie mistake there, but then again, right now, a rookie is all I am.

Thanks for your help on this - your direction and the service bulletin got it all 100% for me.

Les
(soon to be licensed)

48460. Re: [TS-520_820_530_830] Re: Finals Question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-03 20:25:16 UTC
From: Joseph Stiles
Topic: 48456 Message: 48460

Les,

Testing should be done into a dummy load, unless you have confirmed that your repairs, etc. are finished and want to get an "on the air" evaluation.

The original Matsushita 2001A tubes can indeed last a very long time. Whom ever had the rig prior to you must have taken care of it...and knew how to properly and quickly get it tuned up.
As long as your power output is within reason...nominal 100W +/- a bit...and slightly lower on 10 meters, your Ip is within specs...your HV doesn't sag below about 750 VDC or so at full output,
practice tuning up your rig(into dummy load)...so when you do get your license...making sure you have a proper antenna...etc...hit the air waves!

also, thanks for you update on identification

73 Joe
WB7UQU
On Thursday, April 3, 2014 11:22 AM, "les@...dude.com" <les@...> wrote:

>Yes - my oversight on the signature. Realized it as soon as I hit send.
>
>Les
>
>
>

48461. Re: [TS-520_820_530_830] Re: Flickering/Stuck LCD

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-03 20:29:10 UTC
From: Joseph Stiles
Topic: 48437 Message: 48461

Les,

Thanks for your compliment but, I am far from a genius...just have been there and done that,
along with many other hams that had, or still have an 820S.
Also, as you found out...that jumper plug (or suitable piece of wire) is important.

73 Joe
WB7UQU
On Thursday, April 3, 2014 10:48 AM, "les@..." <les@mail.reallycooldude.com> wrote:

>Joe, you sir - are a genius!! I do remember reading about this as I was skimming through all the service bulletins once, but it just did not click until I read your response. Reading all the bulletins with having the radio in front of me, I was just reading stuff, with no rhyme or reason of what it all meant - just storing info for later recall.
>
>I just took out the DG-1, removed the board with all the ICs, gave it a good squirt with some cleaner (a lot of flux disappeared then). It may have work at that point, but I figured I'd just give each pin a quick warm up with the iron. At this point, if I am on track, I figured I would have a 50/50 shot of it working right. Put it all back together and everything is great now with this lovely rig!!! I am chomping at the bit for Saturday (testing day).
>
>Oh, BTW - the 8 - 9 jumper on the external VFO is pretty important when testing, as I found out - a little rookie mistake there, but then again, right now, a rookie is all I am.
>
>Thanks for your help on this - your direction and the service bulletin got it all 100% for me.
>
>Les
>(soon to be licensed)
>
>
>

48462. Re: ts530 driver tube voltage, no alc

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-03 21:38:22 UTC
From: <wagstw46@...>
Topic: 48455 Message: 48462

Ira

I am very busy with rigs coming out of the woodwork here! I think I told you that the ALC voltage at the output of the Audio board should be where you set RF-1 level which should be approx 3.2vdc. You can accurately set that with your DMM because RF-1 is a low Z power supply and the impedance (load) of your meter wont pull it down as you measure it.

The ALC bus is a High Z power supply and just about any meter you place on it to measure it will pull it down. So I am guessing that the 2.59vdc that you measure leaving the Audio board and arriving at the IF board is at 2.59vdc instead of 3.2vdc due to the impedance of your DMM pulling it down. If you measure ALC at Conn 14 Pin 1 in receive mode you should be seeing 2.59vdc or whatever it is you are reading at Audio board.

As I previously explained you must have sufficient RF drive level at 6146 control grids and proper dc operating bias voltage inorder to have approx 45 ua grid current flow. When this small grid current flows Q31 ALC amp (that you replaced) will pull the 3.2vdc down about 0.5vdc to 1.0vdc. So you could expect to see anywhere from approx 2.0vdc to 2.5vdc at Conn 14 Pin 1 in transmit mode. Again for this to occur you need approx 45 rf volts at the 6146 control grids and approx -60vdc bias.

I believe you said you also replaced RL-1 so your TIF amp should be seeing the necessary ALC bus voltage to produce RF drive output in Tx mode as the relay switches from AGC bus to ALC bus. However, you should measure Gate 2 of Q2 to validate this.

I think it may be best if you restate your problem and what you have done so Mike or others can run with this. Suggest something like:

"On my TS530S I have no ALC indication when I try to load the rig in Tune or CW modes. It previously worked fine and I am experienced at loading this rig. I also have no RF output power as indicated by no meter indication in the RF position or on my external wattmeter. I have replaced ALC amp transistor Q31 and RL-1 relay. I have measured and adjusted RF-1 to 3.2vdc. I have verified that I have 2.59vdc at the ALC output on the Audio board Conn 9 Pin 1 and I have confirmed that I have the same 2.59vdc at the IF board at Conn 14 Pin 1. I have not measured the RF drive at the TIF output on the IF board and I have not measured the RF drive at the control grids of the 6146 final tubes. This is because I have no test equipment to measure RF drive levels. I did measure the bias voltage on the 6146 control grids and it is approx -100 in Rx mode and approx -60vdc in Tx mode. The radio works fine in Rx mode which tells me that Q2 mosfet (TIF amp) is good. I have not measured Q2 Gate 2 in Tx mode as I assume the ALC bus voltage is available from the new RL-1 relay I installed"

A statement similar to this will help Mike or Dave or others to help you run from here.

I must get back to work so wont respond anymore. Good luck.

Terry K9TW

48463. Re: TS-520 S S-Meter deflects full scale and stays there, when set to receive WWV

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-03 22:18:08 UTC
From: <wagstw46@...>
Topic: 48447 Message: 48463

You mention that the AGC line is at 1.2 vdc in WWV position. I assume that 1.2vdc is for OFF, FAST, and SLOW? Is that correct?

You said that RIF level was normal and same on the ham bands as on the WWV position. I dont see in my notes what the level would be for a TS520, but do have a level noted for a TS830 and with signal generator supplying signal at SO-239 to drive the S meter to full scale deflection I show a RIF signal level of approx 30mv rms.

So to measure the RIF signal you should drive the rig on one of the ham bands until you get full scale s-meter indication and then measure the resulting RIF level with O-scope or RF millivolt meter. Then remove sig gen and switch to WWV and measure the RIF signal.

You could also try adjusting T4 and T5 to reduce the output of Q4 and see if that changes anything.

Terry K9TW

48464. RE: [TS-520_820_530_830] Nylon gear collar repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-04 05:18:57 UTC
From: fpath fpath
Topic: 34493 Message: 48464

Gregory,

I received the gears you made for me, OUTSTANDING!! Thank you. I have shown them around to some Yaesu folks and they have asked if you are going to be venturing out into that brand of radio??

73s

Dave

VK5PDL

48465. Source for HV Caps

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-04 13:29:27 UTC
From: <guido@...>
Topic: 48465 Message: 48465

Folks
I bought an SM-220 to go with my TS-830S and have found that the caps have died and spilled their guts all over the pc board. These are 0.1uf @ 1kv and 2kv.
Anyone know of a source for them? No luck at Mouser or DigiKey or Antique Radio.

Thanks,
Bill
KA4GAV

48466. Re: Source for HV Caps

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-04 13:33:53 UTC
From: Michael George
Topic: 48465 Message: 48466

Bill,

You might try RF Parts. Just another possible vendor.

73,

Mike George
K3MG

48467. Re: [TS-520_820_530_830] Source for HV Caps

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-04 13:51:41 UTC
From: Mark Gilger
Topic: 48465 Message: 48467

Several to choose from at Mouser. I think the
ones you are referring to are all tubular. I used
these to repair my Heath SB-610 scope and they
were smaller than the originals that I replaced.

I would use 3kv or more for all of them.

http://www.mouser.com/ProductDetail/Cornell-Dubilier/940C30P1K-F/?qs=sGAEpiMZZMv1cc3ydrPrF1fw9wOI4QJULLduHe1Tl50%3d

Mark, WB0IQK

At 09:29 AM 4/4/2014, you wrote:
>
>
>Folks
>I bought an SM-220 to go with my TS-830S and
>have found that the caps have died and spilled
>their guts all over the pc board. These are 0.1uf @ 1kv and 2kv.
>Anyone know of a source for them? No luck at
>Mouser or DigiKey or Antique Radio.
>
>Thanks,
>Bill
>KA4GAV
>

48468. Re: Inexpensive Digital RF Millivolt Meter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-04 14:11:31 UTC
From: <oceanmariner@...>
Topic: 48390 Message: 48468

Re: Inexpensive Digital RF MV meter EBay item 281216433787 ex-China
Terry,
Did you have any problems with the Chinese supplier (t-mall2013/bluelect)? I ordered one of these and I'm still waiting after 2 weeks even though he has been paid by PayPal. I had to deal with him direct thru PayPal as he insisted on by-passing EBay. A bit naughty. Couldn't get him to use EBay so I could see my "purchase history" and order details as well as a tracking number. After repeated emails, he has gone completely AWOL. Do you have a direct email address for him? I might be barking up the wrong tree there but hope you can shed some light on the matter. Thanks

Jack/ZL1KFS

48469. Re: [TS-520_820_530_830] Nylon gear collar repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-04 14:26:53 UTC
From: Gregory Graham
Topic: 34493 Message: 48469

Dave
Thanks for the complements. I have been involved in this
technology for a long time but now enjoy retirement. If we (and I
mean we because I need a connection as to what the folks want) are to
pursue this project I need information. Terry K9TW was the lead for me
on the Kenwood sprocket project. He had spare parts, shafts, sprockets
etc. that he sent me to copy. I sent the parts back to him after I
copied the dimensions. So, I think *we* could start down the road and
see what the project entails. First it would be good to get a picture
of the parts in the radio's, identify which radios, and then follow with
an identification. Then if it looks doable, get the parts to copy and
make prototype parts and have someone install them and check them out.
Then I can put up a WEB site and we can be on to helping our hobby. I
need to emphasize, I know there is a little money to be made but I am
not into this as a business venture I am in it to help other Ham's that
need some hard to get parts and of course to have a little fun making
something of value. More about me and my personal interests later.
I also have some information that there is a need for Heathkit
Transciver parts similar to the parts that I have produced. We'll see
in the future what that need is .

So, keep me posted and tell me what you think.

Gregory
NR6C

On 4/3/2014 10:18 PM, fpath fpath wrote:
>
> Gregory,
>
> I received the gears you made for me, OUTSTANDING!! Thank you. I
> have shown them around to some Yaesu folks and they have asked if you
> are going to be venturing out into that brand of radio??
>
> 73s
>
> Dave
> VK5PDL
>
> ---
>

48470. Re: Inexpensive Digital RF Millivolt Meter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-04 18:17:16 UTC
From: <wagstw46@...>
Topic: 48390 Message: 48470

If I had experienced problems with an Ebay seller I hope I would not have brought his product to the attention of our fellow members on this forum!

I am old but not senile yet!

I dealt with "Henry" and thru normal Ebay process with no problems with delivery.

Terry K9TW

48471. Re: [TS-520_820_530_830] Source for HV Caps

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-04 18:30:12 UTC
From: <wagstw46@...>
Topic: 48465 Message: 48471

Mark

These would be much better than the old Vita-Q paper and oil which can still find on Ebay from time to time. You might want to let him know what rectifier diodes you used. I have used TV damper service to replace the factory original HV rectifiers (high pressure diodes).

Terry K9TW

48472. Re: [TS-520_820_530_830] Source for HV Caps

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-04 19:21:11 UTC
From: Mark Gilger
Topic: 48465 Message: 48472

It's been a couple of years and I don't remember
which diodes I used. A group of us are getting
ready to reorder so I'll ask the person putting
together the parts list to send me a copy so I can let him know.

Mark

At 02:30 PM 4/4/2014, wagstw46@... wrote:
>
>
>Mark
>
>These would be much better than the old Vita-Q
>paper and oil which can still find on Ebay from
>time to time. You might want to let him know
>what rectifier diodes you used. I have used TV
>damper service to replace the factory original
>HV rectifiers (high pressure diodes).
>
>Terry K9TW
>

48473. Re: [TS-520_820_530_830] Source for HV Caps

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-04 20:38:32 UTC
From: <wagstw46@...>
Topic: 48465 Message: 48473

Mark

I think I used NTE638 TV damper diodes and NTE525 fast recovery diodes?

I dont see many of these so not a lot of experience, but have seen blown caps and diodes. Caps probably took the diodes. I think good idea to just replace all the PIO with mylar. I would not want to use a standard 1000piv diode in this service. I dont know about the Heath monitor scopes, but I believe the SM-220 has voltages in the 1300 to 1400vdc range? I dont have very good notes, but I see a note about a BY228-3 damper diode. My guess all obsolete now. Have also seen couple of Yaesu scopes but many moons ago.

Hope to check in tomorrow to get an audio check on customers rig if propagation will cooperate. Made a couple of contacts but trust your ear.

Terry K9TW

48474. ts-520s FOR SALE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-05 05:06:34 UTC
From: William Houghton
Topic: 48474 Message: 48474

A very good friend of mine, a very honest guy, will be bringing a TS-520S to the Hanging Judge Hamfest this weekend. It is in Ft Smith, Arkansas on Sat. He didn't ask me to post this but I thought I would give this group a heads-up that it will be there.

48475. ooops

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-05 05:07:57 UTC
From: William Houghton
Topic: 48475 Message: 48475

forgot to add my name and call to my last post about friend bring the TS-520S

Bill, WA6NEQ

48476. RE: [TS-520_820_530_830] Nylon gear collar repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-05 09:18:58 UTC
From: fpath fpath
Topic: 34493 Message: 48476

Gregory,

If it is OK I will give them your email address and get them to contact you direct, if that is OK. It's only Yaesu (LOL). compliment well earned, so much better than the originals.

Best 73s

Dave

VK5PDL

From: tbirdgreg@...
To: TS-520_820_530_830@yahoogroups.com
Date: Fri, 4 Apr 2014 07:26:53 -0700
Subject: Re: [TS-520_820_530_830] Nylon gear collar repair

Dave
Thanks for the complements. I have been involved in this technology for a long time but now enjoy retirement. If we (and I mean we because I need a connection as to what the folks want) are to pursue this project I need information. Terry K9TW was the lead for me on the Kenwood sprocket project. He had spare parts, shafts, sprockets etc. that he sent me to copy. I sent the parts back to him after I copied the dimensions. So, I think we could start down the road and see what the project entails. First it would be good to get a picture of the parts in the radio's, identify which radios, and then follow with an identification. Then if it looks doable, get the parts to copy and make prototype parts and have someone install them and check them out. Then I can put up a WEB site and we can be on to helping our hobby. I need to emphasize, I know there is a little money to be made but I am not into this as a business venture I am in it to help other Ham's that need some hard to get parts and of course to have a little fun making something of value. More about me and my personal interests later.
I also have some information that there is a need for Heathkit Transciver parts similar to the parts that I have produced. We'll see in the future what that need is .

So, keep me posted and tell me what you think.

Gregory
NR6C

On 4/3/2014 10:18 PM, fpath fpath wrote:

Gregory,

I received the gears you made for me, OUTSTANDING!! Thank you. I have shown them around to some Yaesu folks and they have asked if you are going to be venturing out into that brand of radio??

73s

Dave
VK5PDL

48477. RE: [TS-520_820_530_830] Source for HV Caps

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-05 09:21:52 UTC
From: fpath fpath
Topic: 48465 Message: 48477

Bill,

These are PIO and the muck that has come out is not good for your health. Make sure you use gloves to clean up. Have a look on ?bay, there are some 0.1uf PIO, NOS. I have purchased from this sellar and he is great to deal with. I have installed in 2 of my SM220 and makes a huge difference. If you have any problems finding let me know off list and I'll pull up his details

73s

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: guido@...
Date: Fri, 4 Apr 2014 06:29:27 -0700
Subject: [TS-520_820_530_830] Source for HV Caps

Folks
I bought an SM-220 to go with my TS-830S and have found that the caps have died and spilled their guts all over the pc board. These are 0.1uf @ 1kv and 2kv.
Anyone know of a source for them? No luck at Mouser or DigiKey or Antique Radio.

Thanks,
Bill
KA4GAV

48478. Re: [TS-520_820_530_830] Source for HV Caps

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-05 15:19:13 UTC
From: Bill Turini
Topic: 48465 Message: 48478

On 4/5/2014 4:21 AM, fpath fpath wrote:
>
> Bill,
>
> These are PIO and the muck that has come out is not good for
> your health. Make sure you use gloves to clean up. Have a look on
> ?bay, there are some 0.1uf PIO, NOS. I have purchased from this sellar
> and he is great to deal with. I have installed in 2 of my SM220 and
> makes a huge difference. If you have any problems finding let me know
> off list and I'll pull up his details
>
> 73s
>
> Dave
> VK5PDL
>
> ---
> To: TS-520_820_530_830@yahoogroups.com
> From: guido@...
> Date: Fri, 4 Apr 2014 06:29:27 -0700
> Subject: [TS-520_820_530_830] Source for HV Caps
>
> Folks
> I bought an SM-220 to go with my TS-830S and have found that the caps
> have died and spilled their guts all over the pc board. These are
> 0.1uf @ 1kv and 2kv.
> Anyone know of a source for them? No luck at Mouser or DigiKey or
> Antique Radio.
>
> Thanks,
> Bill
> KA4GAV
>
Thank, I appreciate the heads up on the caps.

I spoke to a good friend who knows more about caps than anyone in the world (he does it professionally for un-named agencies) and he said they were polyproplyene Film caps, not electrolytic caps as I had thought. I should have looked more closely at the schematic, I'll check on e-bay for them. I found the couplings on e-bay and they should be here Monday. Wonderful place, e-bay :-)

Any other hints about the SM-220? What about the HV diodes?

73's

Bill
KA4GAV

--
Bill Turini
KA4GAV

48479. Re: [TS-520_820_530_830] Re: TS-530

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-05 13:26:01 UTC
From: GREG KRASHOC
Topic: 5014 Message: 48479

Hello Mike,

I received the new 12BY7 and installed it in my radio but I still have the same problem, I am still trying to figure this out it has to be something simple
as I have not changed anything on my radio, any suggestions would be helpful. Thanks for the help and information you have already giving to me.

73, Greg
KA8ULT

this msg edited as it contained already posted material- Joe-wb7uqu

48480. Re: [TS-520_820_530_830] Nylon gear collar repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-05 14:27:55 UTC
From: Gregory Graham
Topic: 34493 Message: 48480

Dave
FB, OK, share it with them.
Gregory
NR6C

On 4/5/2014 2:18 AM, fpath fpath wrote:

Gregory,

If it is OK I will give them your email address and get them to contact you direct, if that is OK. It's only Yaesu (LOL). compliment well earned, so much better than the originals.

Best 73s
Dave
VK5PDL

48481. Re: Flickering/Stuck LCD

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-05 17:05:19 UTC
From: <les@...>
Topic: 48437 Message: 48481

Maybe off topic a little, just wanted to pass on my excitement. New General Class license holder here - missed Extra by 3 questions!!!!

Anyway, looking forward to getting on the air soon, just waiting for the database to update with my info...

Les
No License Issued Yet / AG

48482. Re: [TS-520_820_530_830] Re: Flickering/Stuck LCD

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-05 20:09:22 UTC
From: Joseph Stiles
Topic: 48437 Message: 48482

Les,

Congrats on your "General" ticket!! You have now opened up a whole new world. You do need to explain to your YL/ XYL, or significant other, that you now have lots of other stuff to do, and will not have the time to mow the lawn, take out garbage....and other mundane tasks that afflict non-hams....A bit late for "April Fools Day".....hihi

Again, Congrats! Hope you stick around here and enjoy participating in keeping these older rigs working for many years to come.

73 Joe
WB7UQU
Group Co-owner

On Saturday, April 5, 2014 1:01 PM, "les@..." <les@...lycooldude.com> wrote:

>Maybe off topic a little, just wanted to pass on my excitement. New General Class license holder here - missed Extra by 3 questions!!!!
>
>Anyway, looking forward to getting on the air soon, just waiting for the database to update with my info...
>
>Les
>No License Issued Yet / AG
>
>
>

48483. Re: Flickering/Stuck LCD

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-05 20:39:18 UTC
From: M. J. Synowiec
Topic: 48437 Message: 48483

Hello Les,

Congratulations! It appears your confidence was not misplaced or exaggerated. Enjoy your new priveleges and have fun filling your RF tool-kit. Here's a hint... patience is one of a tech's best tools. Always give yourself time to think things through. You'll save yourself lots of grief. Again, Congrats!

God Bless & keep you,

Mike, K8SYN

48484. Re: Flickering/Stuck LCD

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-05 20:58:00 UTC
From: <dlbowders@...>
Topic: 48437 Message: 48484

Les,
Congrats. I will keep an ear out for you on CW
Don K5HFG

48485. Re: [TS-520_820_530_830] Source for HV Caps

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-05 21:51:28 UTC
From: Mark Gilger
Topic: 48465 Message: 48485

Bill,
I sent you think link the other day. These are the ones you need.

http://www.mouser.com/ProductDetail/Cornell-Dubilier/940C30P1K-F/?qs=sGAEpiMZZMv1cc3ydrPrF1fw9wOI4QJULLduHe1Tl50%3d

Mark, WB0IQK

At 11:19 AM 4/5/2014, Bill Turini wrote:
>
>
>On 4/5/2014 4:21 AM, fpath fpath wrote:
>>
>>
>>Bill,
>>
>>These are PIO and the muck that has come out is
>>not good for your health. Make sure you use
>>gloves to clean up. Have a look on ?bay, there
>>are some 0.1uf PIO, NOS. I have purchased from
>>this sellar and he is great to deal with. I
>>have installed in 2 of my SM220 and makes a
>>huge difference. If you have any problems
>>finding let me know off list and I'll pull up his details
>>
>>73s
>>
>>Dave
>>VK5PDL
>>
>>
>>----------
>>To:
>><mailto:TS-520_820_530_830@yahoogroups.com>TS-520_820_530_830@yahoogroups.com
>>From: <mailto:guido@...>guido@hamanuals.com
>>Date: Fri, 4 Apr 2014 06:29:27 -0700
>>Subject: [TS-520_820_530_830] Source for HV Caps
>>
>>
>>Folks
>>I bought an SM-220 to go with my TS-830S and
>>have found that the caps have died and spilled
>>their guts all over the pc board. These are 0.1uf @ 1kv and 2kv.
>>Anyone know of a source for them? No luck at
>>Mouser or DigiKey or Antique Radio.
>>

>>Thanks,
>>Bill
>>KA4GAV
>Thank, I appreciate the heads up on the caps.
>
>I spoke to a good friend who knows more about
>caps than anyone in the world (he does it
>professionally for un-named agencies) and he
>said they were polyproplyene Film caps, not
>electrolytic caps as I had thought. I should
>have looked more closely at the schematic, I'll
>check on e-bay for them. I found the couplings
>on e-bay and they should be here Monday. Wonderful place, e-bay :-)
>
>Any other hints about the SM-220? What about the HV diodes?
>
>73's
>
>Bill
>KA4GAV
>
>--
>Bill Turini
>KA4GAV
>

48486. Re: [TS-520_820_530_830] Re: Flickering/Stuck LCD

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-05 22:30:17 UTC
From: James Scribner
Topic: 48437 Message: 48486

Joe: amen to that :>{D

Les: congrats! Welcome to a wonderful hobby and better fraternity of people!

73
Jim
W5SWM

48487. RE: [TS-520_820_530_830] Source for HV Caps

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-05 21:31:11 UTC
From: fpath fpath
Topic: 48465 Message: 48487

Bill,

I have never seen the HV diodes go open circuit, nor have I seen the cap get to that stage. But saying that I usually change caps when the trace starts to fade out. You can lift one leg of the diode and check to see if they are open circuit. If they are then they will need to be replaced. Dont forget there are 0.1uF 1KV and 0.1uF 2KV caps in that part of the circuit, make sure you replace all the HV caps.

What couplings are you refering to?

73s

Dave

VK5PDL

Thank, I appreciate the heads up on the caps.

I spoke to a good friend who knows more about caps than anyone in the world (he does it professionally for un-named agencies) and he said they were polyproplyene Film caps, not electrolytic caps as I had thought. I should have looked more closely at the schematic, I'll check on e-bay for them. I found the couplings on e-bay and they should be here Monday. Wonderful place, e-bay :-)

Any other hints about the SM-220? What about the HV diodes?

73's

Bill
KA4GAV

--
Bill Turini
KA4GAV

48488. Re: [TS-520_820_530_830] Re: Flickering/Stuck LCD

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-06 01:14:08 UTC
From: William Houghton
Topic: 48437 Message: 48488

Congratulations, Les!
Have fun enjoying the hobby.

Just remember that there are lethal voltages lurking in the hybrids and older tube rigs.
Never work on them when you are tired, have been drinking, etc.

73,

Bill

From: "les@...e.com" <les@...>
To: TS-520_820_530_830@yahoogroups.com
Sent: Saturday, April 5, 2014 10:05 AM
Subject: [TS-520_820_530_830] Re: Flickering/Stuck LCD

Maybe off topic a little, just wanted to pass on my excitement. New General Class license holder here - missed Extra by 3 questions!!!!

Anyway, looking forward to getting on the air soon, just waiting for the database to update with my info...

Les
No License Issued Yet / AG

48489. DDS VFO website is up....

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-06 03:35:04 UTC
From: <cocobean64@...>
Topic: 48489 Message: 48489

Hello all....
Put it all on a website, pics, code, vids, etc... go to KB8BAB.com. Can also contact me from there if you have any questions.

Cheers...

73
Bart
KB8BAB

48490. WArning TS-530s / TS-830s High voltage warning

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-06 17:49:33 UTC
From: <paw_paw44036@...>
Topic: 48490 Message: 48490

Please discharge the HV caps and the Driver tube plate 300 volt supply caps as I have found in 3 rigs now that the bleeder resistor R9 in the 530s and 830s to be open and look like new. Do not trust R9 bleeder to do it. I don’t know if it could kill you, but a very nasty shock and unpleasant surprise that could result in cuts and/or damage to the rig.

Best thing to do is discharge with known good alligator jumper clip lead with 2k current limiting resistor and then measure with known good voltmeter before bare hand touching. I have a couple of jumpers made from test probe wire with a 5 watt 2k resistor in series.

I always clip my ground jumper on directly at the HV filter caps and leave in place for a while and never discharge with a screw driver at top of plate choke. Do the same to the 300 volt supply. I do not short the plate choke to ground as I have no idea if the main and small VHF choke windings have continuity and no sense dumping a lot of joules thru them needlessly.

There is a capacitor phenomenon called "dielectric relaxation". You can touch your screw driver or ground lead the cap and get the spark and pop and think you have discharged it. If you wait a few seconds and measure the cap you will still find pretty significant voltage on it. It’s a very good way to get a nasty shock.

Bill WD8OSJ

48491. Kenwood Hybrid Net update (April 6, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-06 19:32:03 UTC
From: Mark Gilger
Topic: 48491 Message: 48491

Dayton Hamvention Kenwood Legacy Forum:
This year will be the first year for the Kenwood
Hybrid Legacy Forum to be held at the Dayton
Hamvention. The forum will be Sunday May 18th.,
room #2, 10:30 □ 11:30. The following preliminary agenda has been proposed:
History of the legacy products.
* Resource help with parts, documentation, etc..
* SDR integration into the legacy line.
* Rewinding a TS-830 L41 coil.
* Tips & Hints.
* Questions and Answer Technical Session
We hope to see you there.

```
Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHo
mePage.htm
```

The net recently celebrated it□s 2nd year in
existence on November 1st, 2013. The yearly
check-in totals are posted at the bottom of this
message. It showed we had a 10% increase in our
Saturday check-ins and an 8% on Sunday as compared to the 2012 check-ins.

```
We had 20 stations checking in under good band
conditions. There were 6 new stations checking
in, KC8IMB, KK4RF, KC8SBZ, VA3DPR, N3FTL and N3JAH.

We had the following number of radios checking in.

4 running TS-520(x)
4 running TS-530(x)
2 running TS-820(x)
2 running TS-830S

I was running my TS-940s, Drake L4B amplifier.

The Sunday 20 meter net we had 19 check-in under
fair band conditions. There was 7 new check-in,
W4KRK, WT0V, KD0MZL, K0QND, NM0V, KB4DBR, and
KD0VVH. We had the following number of radios.

3 running TS-520(x)
0 running TS-530(x)
```

2 running TS-820(x)
3 running TS-830S
3 running TS-440S (Not a hybrid, but old enough to make it one)

I was running my TS-820 twins.

We have been having several people checking in
regularly with their TS-430, TS-440, and
TS-940□s, which of course is not a hybrid,
although over 30+ years old. Everyone is welcome
as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a
net control station, please send me an email.
Currently it's just myself, WB2KNR and WB0SGA. I
would like to get several more. If we do, we can
alternate so everyone might be on a 3-4 week
rotation. It's a lot of fun and a good way to
make sure you station is optimized.

For anyone that has not heard, we have a new web
site that WB4HFN is hosting. He currently has a
very nice site for Drake, Collins and Heathkit
and now Kenwood Hybrids. Good quality manuals
plus sale flyers and brochures will be found
here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 □ Oct. 2012 Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins

November 2013, Saturday□s net total = 94, Sunday□s total = 85
December 2013, Saturday□s net total = 87, Sunday□s total = 103
January 2014, Saturday□s net total = 71, Sunday□s total = 82
February 2014, Saturday□s net total = 80, Sunday□s total = 85
March 2014, Saturday□s net total = 82, Sunday□s total = 73
April 2014, Saturday□s net total = 22, Sunday□s total =19 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

48492. Re: WArning TS-530s / TS-830s High voltage warning

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-07 09:51:32 UTC
From: <adrian@...>
Topic: 48490 Message: 48492

Thanks this advice appreciated since my habit was always to short out choke with long screwdriver blade. I wasn't aware of risk to chokes shorting it, so will make up that bleeder lead and use in future. 73 Adrian G4IQW

48493. Re: WArning TS-530s / TS-830s High voltage warning

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-07 11:30:09 UTC
From: <wagstw46@...>
Topic: 48490 Message: 48493

Yes I had to bite my tongue when I recently saw pictures of screwdriver shorting top of the RF plate choke to the PA cage being touted as good practice.

I said nothing as I know it is common practice and taught by many well intentioned hams of all ages. It simply is not good practice.

My KW Hybrid and my customers are not welding machines. Any time you see that pop and sparks you have just discharged a huge amount of power in a very very short period of time. Why would you see sparks? It is molten metal that is flying in the air. Not likely could fly into your eyes but it is possible. Besides that I dont want any burns, arcs, pits or transfer of any metal on my PA cage.

As Bill says you are relying on the continuity of the small VHF choke and the main RF plate choke windings with this method and if you get no spark you could be fooled into thinking there is no voltage and get a nasty surprise.

Think about this and do some simple calcs. This is science and not voodoo. A 60uf cap charged to 900vdc has 24 joules of stored energy. That is a very large amount of energey. If you discharge that in 1 millisecond you just asked your HV lead wires, plate chokes windings, PA cage metal and of course the capacitors themselves to dissipate 24,000 watts! If you slow it down to 10 milliseconds now at 2400 watts, and slow it down to 100 milliseconds now at 240 watts. The entire series string would much rather see 240 watts than 24,000 watts.

A good alligator test lead jumper with a series 2K ohm resistor will discharge the 900vdc to approx 37% (1 time constant) in approx 120 milliseconds.

Of course you still need to perform a contact voltmeter test before barehand touching as Bill points out is the standard good practice that assures you dont get shocked. No electrician gets killed or burned who religiously measures the point they want to touch with a known good voltmeter. Those who get killed, lose a limb, lose eye sight, or get severely burned are those who take short cuts and touch something that they thought was dead.

Dont forget what Bill says about "dielectric relaxation" this is why high voltage caps are stored with the terminals shorted. Those of us who worked in TV repair know about this effect. I think you may be able to find a You Tube video or two that demonstrates shorting a cap and then connecting DMM and watch the voltage build back up.

Just dont trust those bleeder resistors and use proper discharge tools and techniques and always measure to ensure no voltage on the HV and 300 electrolytic caps.

Thanks to Bill for this spot on counsel.

Terry K9TW

48494. Re: TS-520 MOSFET

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-07 06:37:39 UTC
From: <chastizer4@...>
Topic: 48433 Message: 48494

Thanks for the responses! This radio has been the subject of questions posed by Chad a month or so ago. I'm not sure how to reference that conversation here, but I can give it a try if need be. It has been hacked for CB, but the lower bands appear to be untouched. I am trying to focus on the receiver issues before worrying about transmit. The S-meter had pegged on him upon power up and he hadn't gotten past that when I volunteered to have a look. I am REALLY trying to gain a better understanding of how these work and how to read the schematics. Both VR2 and VR3 were broken on the AVR board which have been replaced. This brought the S-meter back to reality and also returned the missing volume. The current problem I'm working is that the receiver seems to have low sensitivity. I tried to peak the S-meter using the drive on each band, but I get pretty much no deflection at that point. WWV works great and reflects well on the S-meter. In normal receive I can bring in some strong signals but it's clearly very light with little meter deflection. The voltages on the AVR board are good in response to a suggestion by Terry in the other conversation. WWV switch is good. My theory in looking at the block diagram is that if WWV is good while normal receive is not then I could assume that the issue lies between the antenna and the BPF where both signals come to a common point. Does it make sense to focus there?
Thanks again,
Charlie - AC6ZX

48495. Re: TS-520 MOSFET

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-07 16:49:28 UTC
From: <wagstw46@...>
Topic: 48433 Message: 48495

Charlie:

There is no BPF between the Antenna and the Ant Coil unit. There are two resonant wave traps L11 and L5 one series and one parallel to block and suck out your own receiver IF signal from the front end and there is a 4:1 step up transformer L1. Not often that L1 is bad, but it could be. If it is bad signals will be way down.

You can test that by signal injection at NAT and at RFG. If no RF sig gen then just touch center conductor of antenna coax feedline PL-259 to RFG. If good copy then likely L1 is hurt. If still no copy by injecting at RFG then might have bad Q5 rf amp or bad bias voltage or bad AGC voltage to it.

The front end uses two different RF amps. WWV uses Q9 JFET and the ham bands uses Q5 dual gate mosfet. Q5 is in a socket and you could pull Q3 TX mixer and try it in the Q5 socket. Do that with rig powered down so you dont damage the mosfets. Can just leave Q3 socket empty for this test. Not likely that Q5 is bad, but may have taken a hit of nearby lightning.

Between the So-239 connector to the NAT terminal (some rf boards it will be labeled as HAT) is the Ant relay NC contact and the JJY switch contacts. I have had a broken wire on the JJY switch.

Terry K9TW

48496. Re: [TS-520_820_530_830] Re: TS-820S: no power output but power burst on first PTT action

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-07 18:34:11 UTC
From: Jose V. Gavila
Topic: 48301 Message: 48496

Hello Terry and all the Group,

Well, I got the TA7201P replacement and now the audio output is nice and constant :-)!!!

So I have got back to the original problem: no power output but with a very short power surge when first pressing PTT on CW mode, and similar but lot less powerful when on TUNE mode.

I have even tried a working IF UNIT from another rig... but it keeps doing the same.

Summing up, if I inject a low level signal on the RF UNIT (a 30mV signal on RF UNIT TIF input), I get about 50W output, so it seems that the problem is on IF unit, where TIF is generated. But, having checked a replacement unit, and with a very similar result, I am a bit lost now.

Any hint?

Thanks!

JOSE

El 21/03/2014 12:45, wagstw46@... escribió:
> OK Jose:
>
> You sure did not need that complication. Good Lord willing I will still
> be here when you are ready and be glad to help if I can. I also have a
> fully functioning TS820S here with covers off and can take measurements
> if you need that kind of help.
>
> 73s
> Terry K9TW

--
73 EB5AGV - JOSE V. GAVILA - La Canyada - Valencia (SPAIN)
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http://jvgavila.com Personal WEB

48497. Re: WArning TS-530s / TS-830s High voltage warning

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-07 20:54:53 UTC
From: <james27613@...>
Topic: 48490 Message: 48497

Hi,

Remember to remove any rings, watches, etc when you are working on the internals in the radio.
Shorting the HV with a screwdriver can cause the metal from the screwdriver to splatter at you and cause an eye or other injury.

73 james ke4drn

48498. ts820 cw filter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-07 22:41:54 UTC
From: John Hall
Topic: 48498 Message: 48498

hi all, could anyone out there help? i need a 500hz cw filter for a ts820, ihave a 500hz cw filter fot the ts520 and could do a swap or w.h.y! thankyou, john g4lgx.

48499. Re: [TS-520_820_530_830] Re: TS-820S: no power output but power burst on first PTT action

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-07 22:53:39 UTC
From: <wagstw46@...>
Topic: 48301 Message: 48499

Hi Jose:

Well clearly not getting TIFsignal from either of the IF boards so you have to ask yourself what does Q1 TIF amp dual gate mosfet need to produce output that it gets external to the IF board and what is most common failure?

1. Need 14vdc Drain supply from Conn IF-1
2. Need 9vdc bias voltage for Gate 1 from Conn IF-1
3. Need dc control voltage for Gate 2. That control voltage is the ALC bus voltage from Conn IF-3 AGL. It is provided by switching the Aux relay contacts from AGC to ALC. I know you said you cleaned the contacts and I think swapped with the Ant relay, but in my experience loss of the ALC voltage to the TIF amp is most common failure. I assume you have a DC bench supply so you can use it or a couple of 1.5vdc batteries and apply +3vdc to the AGL terminal on the IF board. OK to just parallel it up and see if that gets Q1 turned on.
4. The Balanced Modulator needs Carrier Osc and it gets it from Conn IF-5 CA2.
5. The Balanced Modulator needs dc bias for the ring diodes from the CAR Level Pot (can measure at TP-2). It gets this voltage from Conn IF-5 CV pin.

Can put O-scope on TIF output at Conn IF-3 and see the momentary shot of output. Normal level is approx 100mv P-P.

Terry K9TW

48500. Re: [TS-520_820_530_830] Re: TS-820S: no power output but power burst on first PTT action

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-07 23:21:47 UTC
From: <wagstw46@...>
Topic: 48301 Message: 48500

Jose:

I forgot to mention you also need ALC control voltage at Conn IF-5 on the ALC pin to provide dc control voltage to Q18 so that you have DSBSC output from the Balanced Mod. This voltage comes directly from the RF board and is not switched by the Aux relay on the Relay Unit board. Of course if you have no 3vdc on that ALC line coming from the RF board then will have no AGL voltage to the TIF amp even if you do have a good relay contact. So you might want to measure ALC voltage at RF board at Conn RF-3. If you have no ALC voltage at RF-3 then make sure you have 3.3vdc RF-1 at RF-3.

Terry K9TW

48501. Re: TS-520_820_530_830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-07 23:40:35 UTC
From: <krashoc@...>
Topic: 5014 Message: 48501

I removed the RF board to look for problems on the foil side of the board, what I found was R36 and R37 are open. R36 is a 100k 1/2w and R37 is 3.3K 1W does anybody have an idea what I did to cause this to happen? I want to replace these but I am not sure of the type resistor the R36 is,I thought maybe a carbon, the information in the service manual just says solid 100k 1/2w.

Thanks
73 Greg
KA8ULT

48502. Re: ts820 cw filter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-08 00:54:23 UTC
From: <k6jh@...>
Topic: 48498 Message: 48502

The TS-520 and TS-820 filters are not compatible. The 520 uses 3395 MHz filters, while the 820 uses 8830 MHz.

Check out www.Inrad,net for new filters.

73,
Jim K6JH

48503. Re: TS-520_820_530_830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-08 11:38:27 UTC
From: <wagstw46@...>
Topic: 5014 Message: 48503

Greg

You didnt do anything.

These are the screen grid voltage divider resistors for the 12BY7A driver tube. I have two pristine looking R36 100k resistors here that are both open.

In last couple of months I am starting to find open carbon resistors and I sure hope this is not a sign of things to come. Just replace both of them with Metal Film.

When done measure the screen grid voltage. Do that to make sure someone hasnt messed with 300 and 210 to increase the screen grid voltage. Not likely but good to see if you have proper screen grid voltage on Pin 8 of the driver tube. If you leave enough lead when you bend R37 over you can measure voltage on the lead loop and it should be approx 247vdc.

Can measure 210A supply at Conn 9 and should be approx 256vdc in Rx mode. If you measure approx 339vdc you know someone has performed a QRO mod and you will want to undue that. Again not likely but I would check.

Terry K9TW

48504. Re: TS-520_820_530_830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-08 11:39:40 UTC
From: <wagstw46@...>
Topic: 5014 Message: 48504

While you have the RF board out do a good visual inspection on the soldering at the Driver tube socket lugs and all three of the Drive air variable capacitors. Put a tube in the socket and press and wiggle it as you watch the lugs. Grasp VC-1, VC-2 and VC-3 frames and wiggle/press and watch the soldering at the heavy lugs. Common place for cracks which cause intermittents.

Terry K9TW

48505. Re: [TS-520_820_530_830] Re: TS-820S: no power output but power burst on first PTT action

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-08 13:24:26 UTC
From: Jose V. Gavila
Topic: 48301 Message: 48505

Hello Terry,

Thanks a lot for your detailed message!

I had been following similar thoughts, but my experience with hybrids is limited, so your knowledge is lots better.

> Well clearly not getting TIFsignal from either of the IF boards so you
> have to ask yourself what does Q1 TIF amp dual gate mosfet need to
> produce output that it gets external to the IF board and what is most
> common failure?
>
> 1. Need 14vdc Drain supply from Conn IF-1

It is present and steady on RX and TX

> 2. Need 9vdc bias voltage for Gate 1 from Conn IF-1

It is also OK

> 3. Need dc control voltage for Gate 2. That control voltage is the ALC
> bus voltage from Conn IF-3 AGL. It is provided by switching the Aux
> relay contacts from AGC to ALC. I know you said you cleaned the contacts
> and I think swapped with the Ant relay, but in my experience loss of the
> ALC voltage to the TIF amp is most common failure. ! I assume you have a
> DC bench supply so you can use it or a couple of 1.5vdc batteries and
> apply +3vdc to the AGL terminal on the IF board. OK to just parallel it
> up and see if that gets Q1 turned on.

I have about 3.2Vdc on that pin.

> 4. The Balanced Modulator needs Carrier Osc and it gets it from Conn
> IF-5 CA2.

There is a 1Vpp signal, both on RX and TX

> 5. The Balanced Modulator needs dc bias for the ring diodes from the CAR
> Level Pot (can measure at TP-2). It gets this voltage from Conn IF-5 CV
> pin.

Yes, that is also working fine.

> Can put O-scope on TIF output at Conn IF-3 and see the momentary shot of
> output. Normal level is approx 100mv P-P.

I see the momentary shot on TIF signal. With the LP-100A, on CW mode, I get power peaks of 150+ Watts. But then continous power is just around

2W. I have cheched and it is even lower on SSB (close to 0.3W peak)

Regarding your last message:

> I forgot to mention you also need ALC control voltage at Conn IF-5 on
> the ALC pin to provide dc control voltage to Q18 so that you have
> DSBSC output from the Balanced Mod. This voltage comes directly from
> the RF board and is not switched by the Aux relay on the Relay Unit
> board. Of course if you have no 3vdc on that ALC line coming from the
> RF board then will have no AGL voltage to the TIF amp even if you do
> have a good relay contact. So you might want to measure ALC voltage
> at RF board at Conn RF-3. If you have no ALC voltage at RF-3 then
> make sure you have 3.3vdc RF-1 at RF-3.

Unfortunately, that signal is also OK, both at RF and at IF boards.

I am really puzzled with this repair... There should be some TX gain related problem, but the ALC seems to work OK.

I think one test I could do is to get my TS-820 out of its storage, and pick up the RF board, to replace the one on the non working rig, just in case it makes any difference and can give some other clue.

Best regards and thanks a lot for your help!

JOSE

--
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48506. Re: [TS-520_820_530_830] Re: TS-820S: no power output but power burst on first PTT action

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-08 14:09:37 UTC
From: Jose V. Gavila
Topic: 48301 Message: 48506

No joy... even with another RF BOARD, the output does the same :-(

Regards,

JOSE

--
73 EB5AGV - JOSE V. GAVILA - La Canyada - Valencia (SPAIN)
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http://jvgavila.com Personal WEB

48507. Re: [TS-520_820_530_830] Re: TS-820S: no power output but power burst on first PTT action

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-08 15:52:52 UTC
From: <wagstw46@...>
Topic: 48301 Message: 48507

You said you have 3.2vdc at AGL on the IF board at IF-3 Pin 6. I assume that is with rig flipped to send in CW mode? Must measure it in TX mode. Your meter should pull it down perhaps to as low as approx 2.6vdc.

Best place to measure the required DC and signal voltages is at the leads of Q1 dual gate mosfet. Typically if have them at the Molex connectors should have them at the active device where they are needed. Not always the case with a TS530 or TS830 with the smaller molex connectors where can have bad pin soldering or broken trace to pads. Not common on the TS-820 rigs and besides you tried two different boards.

If you have Q1 drain, gate 1 bias, gate 1 rf signal from xtal filter, and gate 2 alc you should see RF output at TIF IF-3 Pin 2. Not a pulse of RF but approx 0.038mv rms of 8.830 mhz rf drive with rig flipped to send and CAR Level Pot advanced. On scope TIF will be not be clean stable sine wave as the VCO oscillator leaks back from the RF board so you will see harmonic rich TIF signal unless you have low pass filter capability on your O-scope. Must use a 10x low capacitance probe to measure it.

This has to be something very simple we are overlooking.

You are able to get RF output when you sub the TIF input signal to the TX Mixer on RF board.

So assuming you have good TIF output at the IF board the problem has to be between IF board Conn IF-3 and RF board Conn RF-1 Pin 10. Not typical to have bad wiring harness. Try jumpering from TIF at IF board to TIF at RF board.

I dont think much more that I can do to help you. Just go back to Q1 and make sure you have what you need on the Drain, Gate 1 and Gate 2. By the way the signal level at the output of the xtal filters can be measured at cathodes of D6 and D8 and it will be low. Approx 20 to 25mv. At the input at cathode of D7 you will see approx 50mv. I would say minimum input will be approx 25mv and minimum output would be approx 19mv.

Maybe the Filter switching diodes are not getting their needed bias turn on voltage? Suggest you measure the RF drive level at input and output of the xtal filters. If have input and no output then need to measure the bias voltages on the switching diodes.

You can place a jumper with a .047uf cap across the filter and if you get TIF output you know the filter didoes arent being turned on in TX mode. You can start by reading the voltages at IF-2 Conn, but I would also read them at the diodes. D7 anode = 2.98vdc D7 cathode = 2.34vdc and D8 anode = 10.0vdc D8 cathode = 9.4vdc.

If you have good filter switching voltage to the diodes then should have RF input signal to Q1 Gate 1. Not likely you would have two bad xtal filters on two different IF boards.

That is best I can do.

73s
Terry K9TW

48508. wanted, cw filter ts820

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-08 18:13:11 UTC
From: John Hall
Topic: 48508 Message: 48508

hi all, i dont think i made it clear on my last posting that i want a 500hz cw filter for the ts820. i can buy one or exchange for a similar filter for a ts520, i know inrad make one but would cost more than the rig cost!! so please contact me if you can help, 73 john, g4lgx.

48509. Re: [TS-520_820_530_830] Re: TS-820S: no power output but power burst on first PTT action

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-08 22:54:31 UTC
From: Jose V. Gavila
Topic: 48301 Message: 48509

Hello Terry,

Thanks a lot for taking so much time to help me. I will carefully check all of this and will get back with the results.

Now I have another semi-working TS-820 side-by-side with the faulty unit, so I can compare signals in real time. I define it as 'semi-working' as it needs some alignment and perhaps some repairs also. But it generates about 70W, which is good enough to compare measurements with the other unit.

I have a well equipped lab, with plenty of test equipment, and about 25 years of radio and electronics repair experience. But this one is clearly overwhelming me at the moment.

BUT I am not easy to defeat ;-) and, with your help, I am sure we will finally find the bug!

Thanks and best regards,

JOSE

El 08/04/2014 17:52, wagstw46@... escribió:
>
>
> You said you have 3.2vdc at AGL on the IF board at IF-3 Pin 6. I assume
> that is with rig flipped to send in CW mode? Must measure it in TX mode.
> Your meter should pull it down perhaps to as low as approx 2.6vdc.
>
> Best place to measure the required DC and signal voltages is at the
> leads of Q1 dual gate mosfet. Typically if have them at the Molex
> connectors should have them at the active device where they are needed.
> Not always the case with a TS530 or TS830 with the smaller molex
> connectors where can have bad pin soldering or broken trace to pads. Not
> common on the TS-820 rigs and besides you tried two different boards.
>
> If you have Q1 drain, gate 1 bias, gate 1 rf signal from xtal filter,
> and gate 2 alc you should see RF output at TIF IF-3 Pin 2. Not a pulse
> of RF but approx 0.038mv rms of 8.830 mhz rf drive with rig flipped to
> send and CAR Level Pot advanced. On scope TIF will be not be clean
> stable sine wave as the VCO ! oscillator leaks back from the RF board so
> you will see harmonic rich TIF signal unless you have low pass filter
> capability on your O-scope. Must use a 10x low capacitance probe to
> measure it.
>

> This has to be something very simple we are overlooking.
>
> You are able to get RF output when you sub the TIF input signal to the
> TX Mixer on RF board.
>
> So assuming you have good TIF output at the IF board the problem has to
> be between IF board Conn IF-3 and RF board Conn RF-1 Pin 10. Not typical
> to have bad wiring harness. Try jumpering from TIF at IF board to TIF at
> RF board.
>
> I dont think much more that I can do to help you. Just go back to Q1 and
> make sure you have what you need on the Drain, Gate 1 and Gate 2. By
> the way the signal level at the output of the xtal filters can be
> measured at cathodes of D6 and D8 and it will be low. Approx 20 to 25mv.
> At th! e input at cathode of D7 you will see approx 50mv. I would say
> m inimum input will be approx 25mv and minimum output would be approx 19mv.
>
> Maybe the Filter switching diodes are not getting their needed bias turn
> on voltage? Suggest you measure the RF drive level at input and output
> of the xtal filters. If have input and no output then need to measure
> the bias voltages on the switching diodes.
>
> You can place a jumper with a .047uf cap across the filter and if you
> get TIF output you know the filter didoes arent being turned on in TX
> mode. You can start by reading the voltages at IF-2 Conn, but I would
> also read them at the diodes. D7 anode = 2.98vdc D7 cathode = 2.34vdc
> and D8 anode = 10.0vdc D8 cathode = 9.4vdc.
>
> If you have good filter switching voltage to the diodes then should have
> RF input signal to Q1 Gate 1. Not likely you would have two bad xtal
> filters on two different IF boards.
>
> That is best I! can do.
>
> 73s
> Terry K9TW

--
73 EB5AGV - JOSE V. GAVILA - La Canyada - Valencia (SPAIN)
http://agvradio.com AGVradio
http://jvgavila.com Personal WEB

48510. Re: [TS-520_820_530_830] Re: TS-820S: no power output but power burst on first PTT action

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-08 23:15:13 UTC
From: <wagstw46@...>
Topic: 48301 Message: 48510

Jose:

Yes I think I have seen pictures of your RF lab. My bench is much more modest, but very adequate for KW hybrid repair and alignment. What little I make servicing them I usually spend to upgrade test gear. Last year put back enough to purchase and erect Rohn 45G tower and Mosley Tri-band yagi and rotator.

I am sure you will find the problem. I would have bet on no ALC rail voltage at IF-3 AGL terminal due to bad relay contact. Most common problem with an easy fix.

If I were you I think I would jumper across the SSB xtal filter with a .047 cap (value not critical) and if rig comes alive you know you have bad switching diodes or not getting the forward bias from Conn IF-2 Plug. If you dont have a CW filter and the Plug is in either B or C positions you wont turn on the path thru the SSB filter in Tune or CW modes. You could also test this by placing rig in LSB/USB and turning up mic gain and whistling in the mic with mic gain advanced.

Was the rig working and just quit or is this rig new to you and comes with the problem?

What filters do you have installed? Is the IF-2 Plug in the "A" position. If you have only the SSB filter make sure plug is in the "A" position.

73s
Terry K9TW

48511. Dispute between members

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-08 23:38:13 UTC
From: W5RKL
Topic: 48511 Message: 48511

To ALL Members,

If you have a dispute between yourself and another member, regardless of the reason for the dispute, do not carry on your dispute on the group! Any/all disputes between members will be conducted through "Private Email", NEVER on the group!! There is no excuse for using the group as a forum for your disputes!!

73
Mike W5RKL
Yahoo Kenwood TS_520_820_530_830 Group Moderator

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

48512. Re: [TS-520_820_530_830] Dispute between members

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-09 17:05:11 UTC
From: Joseph Stiles
Topic: 48511 Message: 48512

Greetings Group!

I want to state my support for Mike's(w5rkl)statement, regarding "personal" disputes regarding members of this group. Be it hereby stated:

IF, you have a personal beef/problem with another member, keep it between the parties involved...ie; direct email contact...which every member can find another party's email address...or other communication venues...NOT ON THIS BOARD!

The ONLY possible exception might be; alerting the group of a "scam," Which I have done in the past. This will require a complete statement of facts. If you are deemed to have manufactured a "scam" story to get back at another member...because this person said something to hurt your feelings...your membership/participation in this group will be terminated. If, for some reason you can not abide by the rules/policies, PLEASE feel free to "unsubscribe" now, or the other "Moderators/Co-owners" can do it for you.

We try and provide a environment free of QRM/QRN and other "stuff," so we all can focus on the primary reason for this groups existence.

The continuing difficulty over the recent past surprises me. Some very colorful language and, physically impossible acts have been directed at/to the "management." These are NOT the people this group will tolerate.

So....stop running with scissors...work and play well with others....

we now return to our regular program.....

73 Joe
WB7UQU
TS-520_820_530_830 yahoo! group Co-owner

On Tuesday, April 8, 2014 4:38 PM, W5RKL <w5rkl@...> wrote:

>To ALL Members,
>
>If you have a dispute between yourself and another member, regardless of the reason for the dispute, do not carry on your dispute on the group! Any/all disputes between members will be conducted through "Private Email", NEVER on the group!! There is no excuse for using the group as a forum for your disputes!!
>
>73
>Mike W5RKL
>Yahoo Kenwood TS_520_820_530_830 Group Moderator
>
>
>

>
>_____
>
> This email is free from viruses and malware because avast! Antivirus protection is active.
>
>
>
>

48513. No dispute - Terry's a wizard!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-09 21:00:16 UTC
From: <crgrbrts@...>
Topic: 48513 Message: 48513

Not long ago, I shipped my mildly ill TS-830S to Terry, K9TW, for a healing visit employing test gear brand/model expertise I do not possess. The radio returned today, happily, in fine fettle and performing better than it has since I adopted it a year or so ago.

I will not detail the repairs Terry made but will attempt to impress you with the levels of inspection, troubleshooting and post-service testing undertaken. It is all documented in a thoroughly prepared service report. After a initial review of expected service,the first section of the 16-page document comprises observations made upon initial visual inspection of the unit. Here, we read of Terry's discovery of such minutiae as a stripped chassis screw hole and a light dust buildup on the PA cage fan blades. But, we also learn of many loose internal screws and an incorrect cable dressing which could, in time, turn troublesome. We are also informed of sloppy interaction among chain-driven variable capacitors VC1, VC2 and VC3 and the reasons for this anomaly. Terry, with Holmesian powers of observation, also detected what scattered components I had replaced in my restoration attempts.

The juicy bit of the report, of course, was Terry's chronicling of the repairs made, the full factory alignment procedure, post-service testing and recommendations for further owner action. The last few pages of the report are devoted to frequency response charts based upon audio and variable bandpass tuning (VBT) measurements. In all, Terry's report was instructive, useful and even entertaining. Above all, it demonstrated the care and pride that Terry takes in his expert work. In all my years in hamdom, I have never been the benefactor of service and documentation as thorough and of such high quality as K9TW's.

Thank you, Terry! I recommend your service to all highly and without reservation.

VY 73,

Craig
W3CRR

48514. Re: No dispute - Terry's a wizard!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-09 23:52:38 UTC
From: <wagstw46@...>
Topic: 48513 Message: 48514

Craig

I certainly appreciate your kind endorsement, but you have only had time to drive it around the block. You might want to take a road trip or two before passing judgement!

As to the final report you cite I generally reserve that document for "special customers". Now others will expect the same thing. Thanks to you I will now have to raise my rates!

Just remember we are dealing with 35 to 40 year old radios here and anything can go wrong at anytime. Hopefully yours will give you many hours of enjoyment.

Thanks again and enjoy.

Terry K9TW

48515. RE: [TS-520_820_530_830]TEST

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-11 05:28:29 UTC
From: fpath fpath
Topic: 48301 Message: 48515

Sorry, just running test email. I don't seem to be getting all emails these days.

73's

Dave
VK5PDL

48516. Re: [TS-520_820_530_830]TEST

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-11 17:52:54 UTC
From: Joseph Stiles
Topic: 48301 Message: 48516

Dave,

Your test was fine. There's not been a lot of "action" in the group the past few days.

Cheers

73 Joe
WB7UQU
On Thursday, April 10, 2014 10:28 PM, fpath fpath <fpath@...> wrote:

>Sorry, just running test email. I don't seem to be getting all emails these days.
>
>73's
>Dave
> VK5PDL
>
>
>_____
>
>
>
>

48517. Re: [TS-520_820_530_830]TEST

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-11 19:16:35 UTC
From: Craig Roberts
Topic: 48301 Message: 48517

On 4/11/2014 1:52 PM, Joseph Stiles wrote:
> /There's not been a lot of "action" in the group the past few da/ys.

> Apparently, for the first time in human history, every single Kenwood
> hybrid radio still extant is operating trouble free. Astounding, ain't it?

73,

Craig
W3CRR
whose two hybrids are both working perfectly

48518. Re: [TS-520_820_530_830]TEST

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-11 20:50:22 UTC
From: Mike W5RKL
Topic: 48301 Message: 48518

Just a few thoughts.

There could be activity taking place through private emails. Also, it's possible that members may be studying reference material to get a better idea of what's happening in the circuit they are trying to troubleshoot.

73
Mike W5RKL

On 4/11/2014 2:16 PM, Craig Roberts wrote:
>
> On 4/11/2014 1:52 PM, Joseph Stiles wrote:
>> /There's not been a lot of "action" in the group the past few da/ys.
>
>> Apparently, for the first time in human history, every single
>> Kenwood hybrid radio still extant is operating trouble free.
>> Astounding, ain't it?
>
> 73,
>
> Craig
> W3CRR
> whose two hybrids are both working perfectly
>
>

48519. Re: TS-520 MOSFET

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-11 18:01:06 UTC
From: <chastizer4@...>
Topic: 48433 Message: 48519

Bingo! The center conductor to HAT (the NAT reference was driving me nuts... thanks for clarifying) produced the long awaited activity. L1 appears to have cracks on the edges of the adjusting point (please forgive the horrific terminology). Can you tell me if or where this part might be available? Thanks as always, Charlie - AC6ZX

48520. Re: [TS-520_820_530_830]TEST

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-11 21:21:24 UTC
From: <wagstw46@...>
Topic: 48301 Message: 48520

Craig

For those of us not reading the schematics on the original parchments you might want to explain that "extant" is not a typo!

Terry K9TW

48521. Re: [TS-520_820_530_830]TEST

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-11 21:44:52 UTC
From: Ron
Topic: 48301 Message: 48521

Well mines not working perfect but getting there !!!

Ron KK4PWF

On Apr 11, 2014, at 4:21 PM, <wagstw46@...> wrote:

>
>
> Craig
>
> For those of us not reading the schematics on the original parchments you might want to explain that "extant" is not a typo!
>
> Terry K9TW
>
>
>

48522. RE: [TS-520_820_530_830]TEST

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-11 22:31:14 UTC
From: fpath fpath
Topic: 48301 Message: 48522

Thanks all, just havent seen too much over the last few weeks and absolutely nothing yesterday apart from my test message. This happened last year aswell, then got a huge dump and was several weeks out of date. No harm and No foul.

Yes I know what you mean Mike, my XYL found a great 1960s understanding receivers and tube book, so have had my nose in it for weeks. Very interesting in getting a better understanding. Now if I could only find a book on 400Hz basic power supplies

Bets 73s

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: stilesjoseph@...
Date: Fri, 11 Apr 2014 10:52:54 -0700
Subject: Re: [TS-520_820_530_830]TEST

Dave,

Your test was fine. There's not been a lot of "action" in the group the past few days.

Cheers

73 Joe
WB7UQU

On Thursday, April 10, 2014 10:28 PM, fpath fpath <fpath@...> wrote:

Sorry, just running test email. I don't seem to be getting all emails these days. 73'sDave
VK5PDL

48523. A positive experience!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-12 01:24:02 UTC
From: Joe Reed
Topic: 48523 Message: 48523

I guess it's the onset of getting older, but last winter I was bit by the Kenwood bug again. Perhaps a bit of reliving my youth, partly a rekindled love of yesterday's technology. And since next month I will celebrate my 43rd year of ham radio I decided to build a Kenwood station again.

I have been acquiring parts to rehabilitate my new to me TS-530S. Among them were the all important shaft couplers. I ordered some from a well known vender, they seemed fine but large. When perusing K4EAA's website I noticed his. Sweet, so I ordered some, a replacement RL1, and other stuff. They came in 2 envelopes while I was off on a business trip. Got home on Friday and they were sitting on the table. Wake up on Saturday and saw only 1 envelope. The XYL cleaned the table and accidentally tossed them and took the garbage out. No biggie, I'm not a dumpster diver so I decided to order more, and a couple of 12BY7A tubes.

They came while I was away on another business trip, but when I got home I put the tubes on the tester and one was a dud, no filiments. A quick note to Ken had a response within minutes (!) and he offered to send me a replacement the next day. I sat dumbfounded for a minute and realized I needed to buy something else from him so I would cover the cost of shipping. Unfortunately USPS didn't deliver last Saturday, and early Monday I was on another airplane. They arrived Monday, and when I got home today put them on the 707 and they tested solid.

In my 43 years I have been shafted at hamfests, print want ads, electronic want ads and of course eBay. To have had dealings with a true gentleman has renewed my faith in my fellow hams. Ken is a real stand up guy. I couldn't be happier.

Now to see if a I can fit the time in to replace the driver and replace the bandswitch coupler between the honey-do list and other obligations before catching yet another plane Sunday morning.

73,
Joe N9JR

Sent from my iPad

48524. Re: A positive experience!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-12 11:47:22 UTC
From: <wagstw46@...>
Topic: 48523 Message: 48524

Joe:

I cant imagine Ken charging you shipping to send you a replacement 12BY7A tube?

I dont know a single person who has had an issue with Ken.

I once bought a pack of brass couplers and it took some months before I went thru them all and one of them in the pack would not fit on the shaft even after backing out the set screws completely. I tried it on more than one shaft. I had no way to measure the bore id, but clearly it was too small. Dont understand how that could happen unless it somehow missed the final pass in his CNC lathe? Anyway, I contacted Ken and next day he sent me 2 couplers for my troubles and no shipping charge.

About 90% of the time his wife Barb fills the orders. I dont know anything about her technical back ground but I do know she understands old fashioned customer service.

I still buy parts from Ken that I could get at lower price by buying in bulk. I do that because of the contribution he has and continues to make to the KW hybrid community. There are people who believe that "knowledge is power". Ken isnt one of those. He has freely shared all of his vast intellectual property and over 10 years of hands on experience.

Now if we could talk him into serving as a coach/mentor on this reflector!

Terry K9TW

48525. Re: [TS-520_820_530_830] Re: A positive experience!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-12 20:23:23 UTC
From: Joe Reed
Topic: 48523 Message: 48525

Terry,

I may not have been as clear as I might have been, but Ken offered to send a replacement for the duff tube the next day. I was so taken by his instant response and kind offer I felt the need to order something else so I would pay the shipping. Sort of meeting him in the middle.

For what it's worth I ordered another 12BY7 and he sent me 2 Sylvania tubes. Useful in my Kenwood and more so in my Drakes.

Indeed, his site is a wealth of information. I'm currently reading a book by David Maranis titled "When Pirde Still Mattered: The Life of Vince Lombardi". And for Ken K4EAA pride still does matter. I just wanted to share my outstanding customer service experience.

Regards,
Joe N9JR

Sent from my iPad

On Apr 12, 2014, at 6:47 AM, "wagstw46@...<mailto:wagstw46@...>" <wagstw46@...<mailto:wagstw46@...>> wrote:

Joe:

I cant imagine Ken charging you shipping to send you a replacement 12BY7A tube?

.

48526. Re: A positive experience!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-13 11:42:29 UTC
From: <paw_paw44036@...>
Topic: 48523 Message: 48526

All,
I have had very great luck ordering from Ken. He has always shipped within 3 - 4 days I have had my items.
I did have one coupler that would not go on the shaft. I took my pocket knife and placed it in the hole and turned it a couple of times. A small burr was removed and all was well.
Bill WD8OSJ

48527. Re: A positive experience!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-13 12:22:20 UTC
From: <wagstw46@...>
Topic: 48523 Message: 48527

Paw Paw:

I am not senile yet and have more than a modicum of mechanical ability.

There was no burr in my brass coupler. Neither end would go on and it was clearly a smaller ID. I have a drill press and hobby lathe and thought about opening it up, but decided to send back to Ken in case it was not just a one off. He did autopsy on it and could not determine how it got past his QC inspectors. Not sure how many inspectors on his payroll. Apparently only doing random sampling? I doubt he had the heart to fire any of them.

I suppose could have tried a rat tail file or pocket knife.

Terry K9TW

48528. Re: [TS-520_820_530_830] Re: Grounding resistors

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-13 16:00:07 UTC
From: Bob Lazarow
Topic: 48523 Message: 48528

Terry: Regarding the 2K resistors recommended for discharging HV capacitors - what do you recommend for minimum rated watts, and does type of resistor matter at all.. (carbon, film, wire wound)? I have to admit....in my past tube work Ham and Audio, I used the screw driver straight from the capacitor lug or wire..to ground...repeated untl meter showed close to zero volts...

Thanks,

Bob / WA2JAJ

On 4/13/2014 8:22 AM, wagstw46@... wrote:
>
> Paw Paw:
>
>
> I am not senile yet and have more than a modicum of mechanical ability.
>
> There was no burr in my brass coupler. Neither end would go on and it
> was clearly a smaller ID. I have a drill press and hobby lathe and
> thought about opening it up, but decided to send back to Ken in case
> it was not just a one off. He did autopsy on it and could not
> determine how it got past his QC inspectors. Not sure how many
> inspectors on his payroll. Apparently only doing random sampling? I
> doubt he had the heart to fire any of them.
>
> I suppose could have tried a rat tail file or pocket knife.
>
> Terry K9TW
>

48529. TS-830S Low Power Output on 12 Meters need help!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-13 17:06:38 UTC
From: <davidcuttler@...>
Topic: 48529 Message: 48529

I have an 830S with low power out on 12 meters.
All the other bands are fine, putting out 100W plus on 160 through15 meters, 90 on 10 meters, and only 50W on 12 meters. I have peaked the Drive, RF, and Antenna slugs on the RF board , and used Deoxit on the band switches for no help. The rig operates perfectly in all other respects.
All readings were taken key down with a Bird 43 watt meter.
I am kind of scratching my head on this, and any help would be welcome
Thanks,
David

48530. Re: [TS-520_820_530_830] Re: Grounding resistors

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-13 17:37:40 UTC
From: <wagstw46@...>
Topic: 48523 Message: 48530

Bob:

Many people have employed the screw driver for years and dont always apply it for long time or multiple times and dont perform a contact voltage measurement after the initial fireworks. They are unaware of "dielectric relaxation" phenomenon. That includes me in my youth. I am sure there are burn marks on my 1960s vintage transmitter pa cages and screwdrivers.

It is your rig and up to you. I just always try to present good practice and the basis for that practice. Most of the time if you wait long enough the bleeders will do their job, but do you want to bet your life on them?

Also the habits and practices that you employ with a 100 watt transmitter almost always will just carry over to how you would work on a 1000 watt transmitter where you have power supply voltages that are 3 to 4 times or more higher.

I would use a 5 watt to 10 watt resistor. It can be any type. Key is dont want one that will open circuit over time. So to me that would rule out carbon. It is hard to calculate the wattage and you cannot simply use Wattage = V squared/R because of the RC time constants involved. The duty cycle is very short so a pretty low wattage resistor can safely dissipate pretty high pulse current. With 60uf and a 2K bleeder looking at approx 120 millisec for 1RC and approx 600 millisec for 5RC. So a 2 watt or 5 watt resistor should not fail in this service. Just to be safe I use a 5 watt in my grounding jumper.

We probably need our MS EE members in here to help us with specing the resistor. I have seen some rules of thumb for sizing the ohmic value as well with 5 ohms per volt being mentioned. This would see us employ a 4.7k ohm resistor. I have seen some fellas recommend a 10k resistor. I would not go that high. I have had good luck using a 2.2k ohm 5 watt resistor. Of course if go to high then takes too long to discharge and too low the current stresses the capacitors and plate choke windings if people persist in grounding at that location.

Sorry cant be more precise.

Terry K9TW

48531. Re: TS-830S Low Power Output on 12 Meters need help!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-13 18:21:50 UTC
From: <wagstw46@...>
Topic: 48529 Message: 48531

David

A O-scope, RF millivolt meter, or RF probe (multi diode) and VTVM will tell you in a matter of minutes. A Heath IM-18 and PK-3 is a good combo or any similar unit. These old units work well as wont load down the tuned circuits. May have to peak the Drive control to restore max output power on the wattmeter after touching the probe tip to the point where you want to measure the RF drive voltage.

The TX Level Diagram is on page 44 of the 3rd edition service manual.

Load up on 100 watts output on 14.2 mhz and record your RF drive levels for reference. Then load up to as much as you can on 24.930mhz.

Measure the RF drive level at the control grids (pin 5) of your 6146 finals. You should see approx 40 rms rf volts at 100 watts output. If low then work your way back to the TX Mixer. Go to Driver tube plate, driver tube control grid, and output of the TX mixer. Where the RF voltage is low is your problem.

You measure the rf voltage level at output of the TX Mixer on the RF board at TP-4. At 100 watts output you should measure approx 2.8 rms rf volts. At 50 watts output should see something like approx 2.0 rms rf volts. This is the RF drive level to the control grids of your Driver tube.

Typical problem is loose bandswitch rivet on the Drive deck so that the parallel resonant circuit is not being switched in or is being switched in with high resistance.

Terry K9TW

48532. Re: TS-830S Low Power Output on 12 Meters need help!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-13 18:35:23 UTC
From: <wagstw46@...>
Topic: 48529 Message: 48532

David:

I forgot to mention that after you load up to 100 watts output on 20 meters flip the SG switch off to take your TX Level Diagram reference readings. All you need is rf drive and operating bias on the 6146 control grids. No reason to stress the final tubes while taking these drive level readings.

Same with 24.930. Load up to 50 watts out and then flip the SG switch off to take the rf drive levels.

After loading to 100 watts output and turning off the SG switch should see something like 46 rf volts at 6146 control grids. After loading to 50 watts output and turning off the SG switch should see something like 34 rf volts at control grids.

Terry K9TW

48533. Re: TS-830S Low Power Output on 12 Meters need help!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-13 18:49:42 UTC
From: <davidcuttler@...>
Topic: 48529 Message: 48533

Terry,
Assuming it is the rivet on the band switch, is there a fix for that without taking everything apart, and replacing it?

David

48534. Re: [TS-520_820_530_830] Re: Grounding resistors

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-13 18:57:04 UTC
From: Bob Lazarow
Topic: 48523 Message: 48534

Terry, that's a fine response, especially since it fits close to what I was guessing..LOL. I have been working with HV since 1959, and have long since retired the screw driver! Many thanks. Got nailed one time back then with 800VDC inside DX-20, and had "memory" twinges for a few years after...Once was enough!

Bob / WA2JAJ

On 4/13/2014 1:37 PM, wagstw46@... wrote:
>
> Bob:
>
>
> Many people have employed the screw driver for years and dont always
> apply it for long time or multiple times and dont perform a contact
> voltage measurement after the initial fireworks. They are unaware of
> "dielectric relaxation" phenomenon. That includes me in my youth. I
> am sure there are burn marks on my 1960s vintage transmitter pa cages
> and screwdrivers.
>
> It is your rig and up to you. I just always try to present good
> practice and the basis for that practice. Most of the time if you wait
> long enough the bleeders will do their job, but do you want to bet
> your life on them?
>
> Also the habits and practices that you employ with a 100 watt
> transmitter almost always will just carry over to how you would work
> on a 1000 watt transmitter where you have power supply voltages that
> are 3 to 4 times or more higher.
>
> I would use a 5 watt to 10 watt resistor. It can be any type. Key is
> dont want one that will open circuit over time. So to me that would
> rule out carbon. It is hard to calculate the wattage and you cannot
> simply use Wattage = V squared/R because of the RC time constants
> involved. The duty cycle is very short so a pretty low wattage
> resistor can safely dissipate pretty high pulse current. With 60uf
> and a 2K bleeder looking at approx 120 millisec for 1RC and approx 600
> millisec for 5RC. So a 2 watt or 5 watt resistor should not fail in
> this service. Just to be safe I use a 5 watt in my grounding jumper.
>
> We probably need our MS EE members in here to help us with specing the
> resistor. I have seen some rules of thumb for sizing the ohmic value
> as well with 5 ohms per volt being mentioned. This would see us employ
> a 4.7k ohm resistor. I have seen some fellas recommend a 10k resistor.
> I would not go that high. I have had good luck using a 2.2k ohm 5 watt

> resistor. Of course if go to high then takes too long to discharge and
> too low the current stresses the capacitors and plate choke windings
> if people persist in grounding at that location.
>
> Sorry cant be more precise.
>
> Terry K9TW
>

48535. Re: TS-830S Low Power Output on 12 Meters need help!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-13 19:35:39 UTC
From: <wagstw46@...>
Topic: 48529 Message: 48535

David:

None that I am aware of. Actually not too bad a process to solder the rivets or place small jumper wires if it is on the deck nearest the PA cage front wall. Of course have to remove the RV board.

I would not jump to conclusion it is loose rivet just yet. However, when you have low RF output on one band it is almost always bandswitch related. You can try applying deoxit in place. I dont spray it on. You are really more spraying at than spraying on the contacts. Be careful poking around the contacts because easy to bend the fingers and wreck the switch.

I turn the bandswitch to get the wiper up at approx 1130 to 1200 position. That will be with bandswith at 1.5. Then I use an artist brush to apply a drop of full strength D100L (absent that just use D5) to the wiper and then rotate bandswitch multiple times back and forth thru complete rotation to distribute it to all the contacts. I bring the wiper back up again and apply another drop and repeat rotation again. I try to get the drop to work on both sides of the wiper. Very easy to see the wiper if you look over VC-3 from the side of the rig. You want to do this on S7, S6, S5 and S4. Just bring wiper up to top and apply the deoxit and then distribute it via back and forth rotation and repeat this a couple of times.Sometimes this will work. Do it down powered as there is 300vdc plus on S7.

Terry K9TW

48536. Re: TS-830S Low Power Output on 12 Meters need help!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-13 20:20:54 UTC
From: <wagstw46@...>
Topic: 48529 Message: 48536

RF not RV!

I must be thinking about traveling!

Dayton is just month away!

Terry K9TW

48537. ts 820

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-13 19:21:32 UTC
From: John Hall
Topic: 7129 Message: 48537

hi all, just wanted to sayhow much i enjoy my 820[not s!] i bought it at a rally for £70 had no output thou but found the minus grid voltage missing at the 6146s traced to connector on the driver board wire had come off! so soldered it to board, new 6146s replaced screen resistors and cathode resistors and 100w out. have used it alot and love it even thou i have 2 830s i dont know why but there you go! so as i use cw mostly i need a cw filter and if anyone can help i can pay for one, or even swop for a cw filter i have for a ts520. goes to show you dont need to spend xxx£ for a rig these old girls just keep on going for a little tlc, and may even outlast the fangled gadjets out there!! long live the hybrids 73, john, g4lgx.

48538. Kenwood Hybrid Net Update (April 13, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-14 00:05:48 UTC
From: Mark Gilger
Topic: 48538 Message: 48538

Dayton Hamvention Kenwood Legacy Forum:
This year will be the first year for the Kenwood
Hybrid Legacy Forum to be held at the Dayton
Hamvention. The forum will be Sunday May 18th.,
room #2, 10:30 □ 11:30. The following preliminary agenda has been proposed:

```
* History of the legacy products.
* Resource help with parts, documentation, etc..
* SDR integration into the legacy line.
* Rewinding a TS-830 L41 coil.
* Tips & Hints.
* Questions and Answer Technical Session
We hope to see you there.
```

```
Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net
```

```
Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHo
mePage.htm
```

The net recently celebrated it□s 2nd year in
existence on November 1st, 2013. The yearly
check-in totals are posted at the bottom of this
message. It showed we had a 10% increase in our
Saturday check-ins and an 8% on Sunday as compared to the 2012 check-ins.

```
Jimmy, WB2KNR ran the Saturday net. He had 13
stations checking in under very poor band
conditions. There were 6 new stations checking
in, KC8IMB, KK4RF, KC8SBZ, VA3DPR, N3FTL and N3JAH.
```

```
We had the following number of radios checking in.
```

```
3 running TS-520(x)
1 running TS-530(x)
2 running TS-820(x)
0 running TS-830S
```

```
He was running his TS-520.
```

```
The Sunday 20 meter net we had 14 check-in under
poor band conditions. There was 4 new check-in,
W7JJH, KD0FDS, N6ZZO, KG7KME and VE5HKC We had the following number of radios.
```

5 running TS-520(x)
0 running TS-530(x)
1 running TS-820(x)
3 running TS-830S

I was running my TS-820 twins.

We have been having several people checking in
regularly with their TS-430, TS-440, and
TS-940□s, which of course is not a hybrid,
although over 30+ years old. Everyone is welcome
as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a
net control station, please send me an email.
Currently it's just myself, WB2KNR and WB0SGA. I
would like to get several more. If we do, we can
alternate so everyone might be on a 3-4 week
rotation. It's a lot of fun and a good way to
make sure you station is optimized.

For anyone that has not heard, we have a new web
site that WB4HFN is hosting. He currently has a
very nice site for Drake, Collins and Heathkit
and now Kenwood Hybrids. Good quality manuals
plus sale flyers and brochures will be found
here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 □ Oct. 2012 Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins

November 2013, Saturday□s net total = 94, Sunday□s total = 85
December 2013, Saturday□s net total = 87, Sunday□s total = 103
January 2014, Saturday□s net total = 71, Sunday□s total = 82
February 2014, Saturday□s net total = 80, Sunday□s total = 85
March 2014, Saturday□s net total = 82, Sunday□s total = 73
April 2014, Saturday□s net total = 35, Sunday□s total =33 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

48539. Re: A positive experience!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-14 12:13:45 UTC
From: <paw_paw44036@...>
Topic: 48523 Message: 48539

Well, I am senile and enjoy every minute of it. I just met some new friends on Saturday that my xyl said I just had lunch with on Friday. What a JOY!!!!!!!
Bill WD8OSJ

48540. RE: [TS-520_820_530_830] Re: A positive experience!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-14 12:23:29 UTC
From: Rob
Topic: 48523 Message: 48540

Yep, Every morning is like Christmas too.... <grin>

Rob VK3BRS

From: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com] On Behalf Of paw_paw44036@...
Sent: Monday, 14 April 2014 10:14 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: [TS-520_820_530_830] Re: A positive experience!

Well, I am senile and enjoy every minute of it. I just met some new friends on Saturday that my xyl said I just had lunch with on Friday. What a JOY!!!!!!!

Bill WD8OSJ

48541. Re: [TS-520_820_530_830] Re: A positive experience!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-14 15:21:44 UTC
From: Mike McHugh
Topic: 48523 Message: 48541

Bet you would have remembered them if they were NOT fun the first time around.....

Mike (KD2DYY)

member....

On Monday, April 14, 2014 8:23 AM, Rob <roberts@...> wrote:

Yep, Every morning is like Christmas too.... <grin>

Rob VK3BRS

From:TS-520_820_530_830@yahoogroups.com
[mailto:TS-520_820_530_830@yahoogroups.com] On Behalf Of paw_paw44036@...
Sent: Monday, 14 April 2014 10:14 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: [TS-520_820_530_830] Re: A positive experience!

Well, I am senile and enjoy every minute of it. I just met some new friends on Saturday that my xyl said I just had lunch with on Friday. What a JOY!!!!!!!
Bill WD8OSJ

48542. Re: TS-830S Low Power Output on 12 Meters need help!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-15 16:33:54 UTC
From: <davidcuttler@...>
Topic: 48529 Message: 48542

Terry, Thanks for the guidance. I will do as you suggest this weekend.
This was my backup rig, but having back on my desk reminded me why I really liked it. It is so easy to listen to, and I never fail to get great reports from other hams.
Regards,
David

48543. Re: [TS-520_820_530_830] Re: TS-530

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-15 01:56:29 UTC
From: GREG KRASHOC
Topic: 5014 Message: 48543

Hi Mike;

I have replaced the two open resistors on the RF board and things seem to be ok with my TS-530. I was able to tune up and make a few contacts
today :-) Thanks for your help with that.

73, Greg

From: Mike W5RKL <w5rkl@...>
To: TS-520_820_530_830@yahoogroups.com
Sent: Wednesday, April 2, 2014 4:28 PM
Subject: Re: [TS-520_820_530_830] Re: TS-530

HI Greg,

It's possible the driver tube is bad. If you have a spare 12BY7 trying swapping the spare to see if the symptoms change. Since the IP meter indicates 60ma then we can assume the final tubes are conducting DC current.

You can download the operator and service manuals for the TS-530S at the following link:

http://w5rkl.com/kenwood-hybrid-operator-and-service-manuals/

Click on the manual link you want, the file will download in your browser. After the download completes, there are some small icons on the upper right corner, 4 of them plus 2 side by side arrows to the right that looks like this ">>". The icons I'm talking about are to the left of the arrows. Move you mouse over the icons until "download" shows up then click on that icon. This will load the manual into the Acrobate Adobe pdf file reader then all you have to do is save the manual to your hard drive. You will have to have the Adobe reader loaded onto your computer.

Once you have both operator and service manuals downloaded onto your computer then I recommend you spend some time reading them, especially the "Circuit Description" sections.

I have more manuals, TS-520, TS-820, and TS-830, plus others I plan on uploading to my website.

73
Mike W5RKL

On 4/2/2014 8:45 AM, krashoc@... wrote:

>Thanks for the reply Mike.
>I have a fluke 87 and a Triplet 630 I was an industrial electrician for a few years did not do much with electronics. I do not have user or service manual at this point. There is 60+ma of idle current on both USB and LSB in send position. I have not checked with the archive on this web site, I just found this web site this morning, but will start to look

for similar problems in the archive. I was wondering if the drive tube might be NG.
>73,Greg
>KA8ULT
>

48544. msg/post moderation

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-15 21:08:57 UTC
From: Joseph Stiles
Topic: 48544 Message: 48544

Greetings Group,

Since many new members have not taken the time to read the "WELCOME" msg that was automatically sent to them upon approval of membership in this group, let me state part of it for you here:

Your attempted posts/msg's are "moderated." This means that one of the "moderators," or, "Co-owners" must and, will review your submission PRIOR to it being sent to the groups main msg
area. We do NOT appreciate seeing msg's asking "I posted a msg 1/2 hour ago...why have I not seen it?" Moderation is there for a reason. The "Moderators & Co-owners" believe it or not, do other things...like work on or operate our rigs...or possibly some other things...that may not be associated with thisor, any other group. We are not here 24/7 !! We are sorry that we are unable to give you the instant gratification you think youdeserve or want. If for some reason, you are not willing or able to abide by the rules..PLEASE feel freeto click on the "unsubscribe" area on the bottom of any msg/post. NOTE ALSO: We are also at the mercy of Yahoo...at times...it has taken 24 hrs for an "un-moderated" msg to show up!!

73 Joe
WB7UQU
TS-520_820_530_830 Yahoo! Group Co-owner

48545. New Topic Not Showing

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-15 19:30:01 UTC
From: <tfrost@...>
Topic: 48545 Message: 48545

how does it take for a new topic message to show up here ???
I posted a new topic around 1/2 hour ago but still haven't seen it yet...

NM5TF

48546. Re: [TS-520_820_530_830] New Topic Not Showing

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-15 21:43:36 UTC
From: Gordon JC Pearce
Topic: 48545 Message: 48546

On Tue, Apr 15, 2014 at 12:30:01PM -0700, tfrost@... wrote:
> how does it take for a new topic message to show up here ???
> I posted a new topic around 1/2 hour ago but still haven't seen it yet...
>
> NM5TF

It's a mailing list. It doesn't track topics. It's not like shitty forums. It may be that your previous messages are held for moderation, particularly if you haven't posted much before.

It might also be Yahoo! being broken.

--
Gordonjcp MM0YEQ

48547. TS-820s Loses Lock

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-15 18:57:37 UTC
From: <tfrost@...>
Topic: 48547 Message: 48547

got an 820s from that auction site a few years ago...has been a great rig so far...
recently I have noticed a couple of problems when the shack gets cold....I live
in the mountains at 7,200 feet elevation & we have freezing temps well into May,
and yeah I do keep a small heater on for when it gets really cold, but the shack
can get down to the mid 40's at times...

#1) the S meter doesn't work until rig warms up for 5-10 minutes, then works OK
#2) it seems to lose lock in the PLL until it warms up for 5-10 minutes, then works OK...
cycling the band switch back & forth will bring it back into lock...have taken the rig
apart
& sprayed with De-Oxit which seems to work for a while, but would like a more permanent
solution...

anyone else seen/have these problems...if so, what was the fix ???

TIA...73 de Tom NM5TF

48548. Re: [TS-520_820_530_830] msg/post moderation

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-15 23:16:17 UTC
From: CROOKS David
Topic: 48544 Message: 48548

Hi Joe,
"It's not like shitty forums."
Please nip this in the bud.
Dave f4eyk

48549. TS-830 getting new tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-16 02:11:52 UTC
From: <sendjlemail@...>
Topic: 48549 Message: 48549

Hello to the group my name is John, KC5MXJ I am getting new tubes for my TS-830 and was wondering if there was anyone near Tulsa that wanted to help with neutralizing. I think I can handle it but would prefer someone with experience and maybe some equipment. At this point it will be me and the S meter and maybe my friends rig. Thanks, 73
John

48550. Re: [TS-520_820_530_830] msg/post moderation

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-16 15:20:43 UTC
From: Joseph Stiles
Topic: 48544 Message: 48550

Greetings Group...again,

The member in question has voluntarily "unsubscribed." This is one reason that new/newer members posts are moderated, but every once in awhile...one gets through(not yours David..hihi) It would not surprise members of this group some of the colorful terms, and feats of contortion that have been requested the "management" perform.

So, thanks for abiding by the rules...it makes it better for all

73 Joe
WB7UQU
TS-520_820_530_830 yahoo group Co-owner

On Tuesday, April 15, 2014 4:19 PM, CROOKS David <dave.crooks@...> wrote:

>Hi Joe,
>"It's not like shitty forums."
>Please nip this in the bud.
>Dave f4eyk
>
>
>

48551. Re: TS-830 getting new tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-16 18:17:50 UTC
From: <wagstw46@...>
Topic: 48549 Message: 48551

John

It would be best if you could get some help with this. Of course the help may not be familiar with cold neutralizing a KW hybrid rig or be aware of the shock hazard associated with the neutralizing capacitor. Must use an insulate tuning tool. Can use a heat shrinked screw driver, but the metal may affect the null. Can also make a tool from oak dowel rod by filing a flat tang on one end. The capacitor is stiff by design so it does not drift off where you set it.

Best to load rig up on 28.8mhz to approx 100 watts output and then turn off the SG switch on the rear panel.
Not likely that tubes will take off during this loading step.

A separate receiver that covers 10 meters can be used if you have no way to measure RF voltage. Ideally you would couple the output from the TS830 SO-239 connnector into the receiver antenna input using an RF Step Attenuator, but if you dont have one of those then can take a piece of hook up wire and cut each end flush and place tape over the ends so the bare copper cant make any contact and then slip the wire into each SO-239. This will serve as small amount of capacitive coupling for the RF from your 830 to the receiver front end.

You can then tune the receiver to 28.8 mhz and flip the 830 to Send and peak the Drive control for maximum S-meter indication and then adjust the neutralizing capacitor for lowest audio level in the speaker and the lowest indication on the receivers S-meter. If you cant hear or see the signal on the receiver go ahead and skin the insulation off just one end of your jumper wire so that when you plug it in to the SO-239 it makes electrical contact. DO NOT skin off the other end. You need the small (a few pf range) coupling capacitance to limit how much RF you are injecting in to the front end of the receiver.

Not the best method but it will work well enough.

Terry K9TW

48552. Re: TS-830 getting new tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-16 18:47:21 UTC
From: <wagstw46@...>
Topic: 48549 Message: 48552

John:

When I said to load up to approx 100 watts out at 28.8mhz I meant of course using a dummy load.

When done loading then turn off the SG switch and disconnect the coax jumper to the dummy load and then you connect your jumper wire (capacitor coupling) between the two rigs.

Make sure you do not turn the SG switch back on at anytime during this procedure until you have removed the jumper wire and re-connected the dummy load.

Terry K9TW

48553. Re: ts530s drive tube voltage, alc pegging, high idle plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-16 23:08:41 UTC
From: <wallydoc@...>
Topic: 48423 Message: 48553

Ira: I don't think you will have an ALC reading with heaters off, I think the ALC comes off after the driver tube.
Do you have any output? How many watts out?.
I confess I have not been following this, so if I am behind on the conversation, forgive me.
Wally
KC9INK

48554. Re: TS-830 getting new tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-16 23:17:37 UTC
From: <wallydoc@...>
Topic: 48549 Message: 48554

John: Here is what I do:
tune the rig to full output at 28 MHz into a dummy
turn off the SG
using the 50 ohm dummy, put a scope across the pos and neg ant leads
I use a several watt resistor soldered unto an ant connector and connected to ant fitting
for scope reading, not tuning, easier to attach the scope.
Tune neut cap for lowest output on SSB, no mic volume.
Wally
KC9INK

48555. Re: TS-830 getting new tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-17 01:40:18 UTC
From: <sendjlemail@...>
Topic: 48549 Message: 48555

Thanks for all the advice everyone but I do not have a scope, about all I have is a cheap watt meter and a fluke 23. I have asked around but cant find anyone local to help.. May have to wait for installaltion

PLEASE: remember to correctly sign your posts. 73 Joe-WB7UQU

48556. Re: TS-830 getting new tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-17 11:32:12 UTC
From: <wagstw46@...>
Topic: 48549 Message: 48556

It really bemuses me that people cannot or do not read.

Do you think I would spend a lot of key strokes to describe the receiver method of neutralizing if the OP had any test gear?

He clearly stated that all they had to work with was another rig and an S-meter.

Why not describe the old fashioned multiple keying method of trying to get the dip to match the peak output power method?

Terry K9TW

48557. Re: TS-830 getting new tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-17 11:47:12 UTC
From: <wagstw46@...>
Topic: 48549 Message: 48557

So you are saying now you dont have access to another receiver (transceiver)?

Now I am confused. I thought you asked how neutralize new finals with only an S-meter as test gear? Was my explanation too cryptic? If so, then I agree you need to wait for help.

Perhaps Mike W5RKL will make a video demonstrating the receiver method and post on his new website? Some people do better when they can see something rather than to read how to do it. .

What operational symptoms do you have that leads you to think you need new Finals?

Terry K9TW

48558. Re: TS-830 getting new tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-17 13:20:01 UTC
From: <wagstw46@...>
Topic: 48549 Message: 48558

"Doc"

Couple of points (for new people who may be reading your counsel) :

1. There are no Positive and Negative antenna terminals on the rf output of the KW hybrids. There is a SO-239 connector where you connect a PL-259 connector that has the 50 ohm resistor connected in shunt to allow attaching your RF voltage detection devices.

2. Where in the Service Manual does it tell you to neutralize in SSB mode with the Mic gain turned down?

I think you are confusing that with balancing the LSB and USB Carrier Suppression levels. Depending on where you leave the rf voltage level for a given sideband neutralizing in SSB mode may present you with very little RF voltage to work with. The proper way to neutralize is as directed in the service manuals. This is performed in CW mode and not in SSB mode. In CW mode after loading to full output, turn off the SG switch, connect your rf voltage detection instrument to the PL-259 dummy load, flip to Send, using the Drive control peak the RF voltage detected across the mini-dummy load, and then null that voltage with the neutralizing capacitor.

Terry K9TW

48559. Re: TS-830 getting new tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-17 16:10:24 UTC
From: <wagstw46@...>
Topic: 48549 Message: 48559

I forgot one refinement in the cold neutralizing procedure.

After the first null get a hold of the Tank capacitor (Plate Tuning capacitor) and adjust it back and forth for a peak in the RF voltage. Almost always will get a peak in voltage after the first null. Then null this new peak with the Neutralizing capacitor. You can repeat this step 2 or 3 times. Typically after that you wont get any more appreciable increase in RF voltage.

Is this necessary? Of course not, but while you are there you can get the null as precise as you can at 28.8mhz. Neutralization is really only most effective at the band you perform it on and at the frequency where you do it at.

Early KW rigs and other mfg radios commonly directed neutralization to be done at 21.2 to 21.3 mhz. The idea here was to get some neutralization effect ranging from 14 mhz to 30 mhz. In practice it doesnt work well and best to do it at 28.8mhz where the Xc of the Cpg inter-electrode capacitance will be the lowest value resulting in more regenerative feedback and more likely for tube to take off.

Terry K9TW

48560. Re: [TS-520_820_530_830] Re: TS-830 getting new tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-17 17:46:00 UTC
From: Ron
Topic: 48549 Message: 48560

Terry this is not of this threat but puter is down while I have the 830 rf board out what all resistors are prone to go bad ill replace them while the board is out The driver tubs socket is going bad it appears thanks

Ron KK4PWF

On Apr 17, 2014, at 11:10 AM, <wagstw46@...> wrote:

>
>
> I forgot one refinement in the cold neutralizing procedure.
>
> After the first null get a hold of the Tank capacitor (Plate Tuning capacitor) and adjust it back and forth for a peak in the RF voltage. Almost always will get a peak in voltage after the first null. Then null this new peak with the Neutralizing capacitor. You can repeat this step 2 or 3 times. Typically after that you wont get any more appreciable increase in RF voltage.
>
> Is this necessary? Of course not, but while you are there you can get the null as precise as you can at 28.8mhz. Neutralization is really only most effective at the band you perform it on and at the frequency where you do it at.
>
> Early KW rigs and other mfg radios commonly directed neutralization to be done at 21.2 to 21.3 mhz. The idea here was to get some neutralization effect ranging from 14 mhz to 30 mhz. In practice it doesnt work well and best to do it at 28.8mhz where the Xc of the Cpg inter-electrode capacitance will be the lowest value resulting in more regenerative feedback and more likely for tube to take off.
>
> Terry K9TW
>
>
>

48561. SDR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-17 19:27:43 UTC
From: <r_lazarow@...>
Topic: 48561 Message: 48561

I have a Kenwood-TS830, and I mentioned a while back that I wanted to hook up an SDR. Since I won't be able to attend Dayton, I wonder if I can find out and contact the person (or people) who are giving the SDR presentation, either on the group or off line, or anyone with experience along these lines?

My first SDR dongle is on the way, and I had a few questions about the best way to use it with a rig like the '830, as well as any potential transmitter damage to the SDR.

Thanks,

Bob / WA2JAJ

48562. Re: [TS-520_820_530_830] SDR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-17 19:44:47 UTC
From: Jan Servaites
Topic: 48561 Message: 48562

Bob,
I'm giving the lecture on interfacing an SDR to the IF of the Kenwood hybrids (or any older radio).
I'm familiar with the "SoftRock SDR" kits, but I haven't tried one of the TV-Rx dongles. Does it have an VFO capability, or is it freq locked using a crystal oscillator? I use the HDSDR "free" software. Also, the 830's IF is pretty strong for my Softrock, and I need to attenuate the signal about 10db, I think.
Jan N8CBX

r_lazarow@... wrote:

>
>
> I have a Kenwood-TS830, and I mentioned a while back that I wanted to
> hook up an SDR. Since I won't be able to attend Dayton, I wonder if I
> can find out and contact the person (or people) who are giving the SDR
> presentation, either on the group or off line, or anyone with
> experience along these lines?
>
> My first SDR dongle is on the way, and I had a few questions about the
> best way to use it with a rig like the '830, as well as any potential
> transmitter damage to the SDR.
>
> Thanks,
>
> Bob / WA2JAJ
>
>

48563. Re: [TS-520_820_530_830] SDR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-17 20:09:12 UTC
From: Bob Lazarow
Topic: 48561 Message: 48563

Jan: Thanks for the prompt reply. Been a Ham for 55 years now, and one my first QST's had the article about the Q-5r - using ARC5 receiver as a tunable 455Khz IF! Years later, I hooked up my Kenwood TS-430 as a tunable IF to my Collins S1!

Now SDR. Native dongle SDR tunes approx 25Mhz to 1700Mhz, and there is a "Ham it Up" converter that allows coverage from 100Khz way up, with output above the FM Broadcast Band, so that usually the SDR tunes to 125Mhz. All controlled by software like HDSDR or SDR#.

So a few questions:

1. What do you do with the SDR & Kenwood...Panadapter, IF enhancement, or ?
2. Where and how are are you tapping the signal?
3. Any problems with the SDR during Kenwood Transmit?
4 Anything else I should know? I'm so new at this I don't even know the questions to ask. LOL

I got the dongle from an American dealer on the Bay, complete for $18! Converter runs about $50.

Thanks and '73

Bob / WA2JAJ

If this is too involved for the group, I can be reached directly at the e-mail listed below.

On 4/17/2014 3:44 PM, Jan Servaites wrote:
>
> Bob,
> I'm giving the lecture on interfacing an SDR to the IF of the Kenwood
> hybrids (or any older radio).
> I'm familiar with the "SoftRock SDR" kits, but I haven't tried one of
> the TV-Rx dongles. Does it have an VFO capability, or is it freq
> locked using a crystal oscillator? I use the HDSDR "free" software.
> Also, the 830's IF is pretty strong for my Softrock, and I need to
> attenuate the signal about 10db, I think.
> Jan N8CBX
>
> r_lazarow@... wrote:
>
>> I have a Kenwood-TS830, and I mentioned a while back that I wanted to
>> hook up an SDR. Since I won't be able to attend Dayton, I wonder if I
>> can find out and contact the person (or people) who are giving the
>> SDR presentation, either on the group or off line, or anyone with
>> experience along these lines?

>>
>> My first SDR dongle is on the way, and I had a few questions about
>> the best way to use it with a rig like the '830, as well as any
>> potential transmitter damage to the SDR.
>>
>> Thanks,
>>
>> Bob / WA2JAJ
>>
>

48564. Re: TS-830 getting new tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-17 20:26:08 UTC
From: <james27613@...>
Topic: 48549 Message: 48564

Hi John,
There are several radio clubs in your area,
http://www.tulsahamradio.org/ http://www.tulsahamradio.org/
http://www.w5ias.com http://www.w5ias.com
visit visit http://www.arrl.org/find-a-club http://www.arrl.org/find-a-club to find more clubs in your area.

73 james ke4drn

48565. Re: [TS-520_820_530_830] Re: TS-830 getting new tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-17 20:45:55 UTC
From: <wagstw46@...>
Topic: 48549 Message: 48565

Ron

Are you trying to say that you are not responding to this thread and have a problem with your computer?

If you are using this thread to ask what resistors to replace on the TS-830 RF board that is not an easy question to answer. Also, I have never seen a bad driver tube socket, but often the soldering at the lugs where they penetrate the board is cracked due to poor original soldering and many repeated plug and un-plug cycles of the driver tube. This can cause intermittent RF drive problems. Also VC-1, VC-2, and VC-3 can have cracked soldering at the heavy lugs where the capacitor frames enter the board. This also will cause intermittent ALC indication.

As to resistors most of them would require lifting one end to measure. I guess I would look in the higher current applications. I have found driver tube screen grid divider resistors drift high and go open. I have 3 pristine looking R36 100k on the bench in last couple of months that test open. So I guess would look at R36 and R37.

Probably best way to check some of them would have been to take Driver tube socket voltages before pulling the RF board. Since you have the board out just look for obvious signs of overheating, but as I said these R36 resistors look like new yet are open circuited. Maybe look at R38 in the anode supply. Also, L36 driver tube plate choke can cause some problems on couple of the bands. I have replaced several of these. Sometimes can see a discolored brown or dark band around top 3rd of the green choke body. I measure them with digital LCR bridge.

Lastly I have replaced more than one block diode D1 in the Marker circuit. If D1 is bad will have lots of birdies in the receiver about every 10 to 20 khz with them being especially strong on 160 meters. You find them by placing rig on dummy load and Marker turned off and turn the VFO from 0 to 500. Diode D1 is mislabeled on the schematic. It is called out as a 1S1527 and that is wrong. It is a 1S1587 fast switcher. It is there to back bias the emitters of the Marker multivibrator on the PLL board to keep them shut off. If you look up a 1S1587 in NTE it calls out a NTE177 general purpose diode and that is wrong. A correct sub for a 1S1587 would be a common 1N914 or 1N4148 fast switcher.

That is about as good as I can tell you to check and/or replace while you have the TS830 RF board out.

I know several of our other members have been restoring older 1 million series 830s and have found carbon resistor problems so hopefully they will jump in here and share their experience.

Hope this is what you were looking for. Just remember dont be too quick to pull RF boards until you have taken some RF drive and Dc voltages. Lastly make sure you do a very good visual inspection of every Molex connector pin soldering. Must do that under magnification. If bad cant just reheat them. Must remove old solder, clean the oxide off the pin, and resolder.

Terry K9TW

48566. Re: [TS-520_820_530_830] SDR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-17 21:48:07 UTC
From: Jan Servaites
Topic: 48561 Message: 48566

Bob & the Yahoo Group,
It needs to tune very near to the 8.830 mhz IF frequency of the TS-820/830/530. If you have the 830, it's EASY. The IF is on the back panel (IF out #1), or rear panel item #11, in your owner's manual, page 12. Its an RCA jack that is there to connect to the SM-220. Connect your SDR receiver to it (as I mentioned, its a good idea to have about 3-10db of attenuation. I use a switching attenuator).
Watch this Youtube video, its very similar to what I do:
http://www.youtube.com/watch?v=UvG6QyRJW_A

I use mine strickly as a panadapter.
Transmitting has no serious impact to the SDR device or the computer. However, if I have the computer speaker volume turned way up, I get my voice coming through them (they are cheap speakers).

If I understand your SDR dongle, it's needing a converter to down convert from VHF/UHF frequencies, is that right? That sounds like a work-around solution to me ($18 + $50 = $68 !!!???). I like the "Softrock Ensemble-II Rx" (kit price $67; Built for $92 which is a great deal!)
http://fivedash.com/index.php?main_page=product_info&cPath=2&products_id=8
<http://fivedash.com/index.php?main_page=product_info&cPath=2&products_id=8>
With the Ensemble-II Rx, one can tune through the entire HF band. So, I can tune it to any of my radio's IF frequency (not necessarily a Kenwood radio) and accurately place the listening window exactly where I choose.
If you use the "Softrock Lite" ($21 kit + 8.812mhz crystal for 8.830IF $3.51), it will get you there too, but with NO VFO control (like the Ensemble-II will give you).
http://fivedash.com/index.php?main_page=product_info&cPath=1&products_id=5
<http://fivedash.com/index.php?main_page=product_info&cPath=1&products_id=5>

Jan N8CBX

Bob Lazarow wrote:

>
>
> Jan: Thanks for the prompt reply. Been a Ham for 55 years now, and one
> my first QST's had the article about the Q-5r - using ARC5 receiver as
> a tunable 455Khz IF! Years later, I hooked up my Kenwood TS-430 as a
> tunable IF to my Collins S1!
>
> Now SDR. Native dongle SDR tunes approx 25Mhz to 1700Mhz, and there is
> a "Ham it Up" converter that allows coverage from 100Khz way up, with
> output above the FM Broadcast Band, so that usually the SDR tunes to
> 125Mhz. All controlled by software like HDSDR or SDR#.

>
> So a few questions:
>
> 1. What do you do with the SDR & Kenwood...Panadapter, IF enhancement,
> or ?
> 2. Where and how are are you tapping the signal?
> 3. Any problems with the SDR during Kenwood Transmit?
> 4 Anything else I should know? I'm so new at this I don't even know
> the questions to ask. LOL
>
> I got the dongle from an American dealer on the Bay, complete for
> $18! Converter runs about $50.
>
> Thanks and '73
>
> Bob / WA2JAJ
>
> If this is too involved for the group, I can be reached directly at
> the e-mail listed below.
>
>
>

48567. Re: [TS-520_820_530_830] SDR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-17 23:34:20 UTC
From: Bob Lazarow
Topic: 48561 Message: 48567

Jan: Again, thanks for the info...checked out the YouTube and one or two others related to Kenwood. WOW! FYI - The dongle + converter combo I think can tune from 100Khz to 1700Khz...of course, you would need to have appropriate antennas to cover that range or portion! Question: If it were possible, on the '830, which IF would be better to use? I am thinking the lower frequency second IF...but since the jack is already set up for high IF, would it be worth the effort? Well, the initial stuff may be here as soon as tomorrow, so I'll be able set up the software and drivers...then I'll order the converter board. Took a look at FUNcube, but $200 not right now anyway

Thanks,

Bob / WA2JAJ

On 4/17/2014 5:48 PM, Jan Servaites wrote:
>
> Bob & the Yahoo Group,
> It needs to tune very near to the 8.830 mhz IF frequency of the
> TS-820/830/530. If you have the 830, it's EASY. The IF is on the back
> panel (IF out #1), or rear panel item #11, in your owner's manual,
> page 12. Its an RCA jack that is there to connect to the SM-220.
> Connect your SDR receiver to it (as I mentioned, its a good idea to
> have about 3-10db of attenuation. I use a switching attenuator).
> Watch this Youtube video, its very similar to what I do:
> http://www.youtube.com/watch?v=UvG6QyRJW_A
>
> I use mine strickly as a panadapter.
> Transmitting has no serious impact to the SDR device or the computer.
> However, if I have the computer speaker volume turned way up, I get my
> voice coming through them (they are cheap speakers).
>
> If I understand your SDR dongle, it's needing a converter to down
> convert from VHF/UHF frequencies, is that right? That sounds like a
> work-around solution to me ($18 + $50 = $68 !!!???). I like the
> "Softrock Ensemble-II Rx" (kit price $67; Built for $92 which is a
> great deal!)
> http://fivedash.com/index.php?main_page=product_info&cPath=2&products_id=8
> With the Ensemble-II Rx, one can tune through the entire HF band. So,
> I can tune it to any of my radio's IF frequency (not necessarily a
> Kenwood radio) and accurately place the listening window exactly where
> I choose. If you use the "Softrock Lite" ($21 kit + 8.812mhz crystal
> for 8.830IF $3.51), it will get you there too, but with _NO VFO_
> control (like the Ensemble-II will give you).
> http://fivedash.com/index.php?main_page=product_info&cPath=1&products_id=5
>

> Jan N8CBX
>
> Bob Lazarow wrote:
>
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>> one my first QST's had the article about the Q-5r - using ARC5
>> receiver as a tunable 455Khz IF! Years later, I hooked up my Kenwood
>> TS-430 as a tunable IF to my Collins S1!
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>> Now SDR. Native dongle SDR tunes approx 25Mhz to 1700Mhz, and there
>> is a "Ham it Up" converter that allows coverage from 100Khz way up,
>> with output above the FM Broadcast Band, so that usually the SDR
>> tunes to 125Mhz. All controlled by software like HDSDR or SDR#.
>>
>> So a few questions:
>>
>> 1. What do you do with the SDR & Kenwood...Panadapter, IF
>> enhancement, or ?
>> 2. Where and how are are you tapping the signal?
>> 3. Any problems with the SDR during Kenwood Transmit?
>> 4 Anything else I should know? I'm so new at this I don't even know
>> the questions to ask. LOL
>>
>> I got the dongle from an American dealer on the Bay, complete for
>> $18! Converter runs about $50.
>>
>> Thanks and '73
>>
>> Bob / WA2JAJ
>>
>> If this is too involved for the group, I can be reached directly at
>> the e-mail listed below.
>>
>>
>

48568. Re: TS-830 getting new tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-18 01:53:00 UTC
From: <sendjlemail@...>
Topic: 48549 Message: 48568

Well visited both in the past never developed. Joined one awhile back but nobody I could call. Good advice.
thanks
John

48569. Re: [TS-520_820_530_830] SDR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-18 13:12:33 UTC
From: <wagstw46@...>
Topic: 48561 Message: 48569

Bob

You are going to want to pull the IF off for a Panadapter in the IF chain Before they start tightening up the pass band. So would not want to tap off at 455khz where you are at less than 3khz wide.

In the hybrids they do that by inserting a xtal or ceramic "roofing" filter between the RIF amp and the Noise Blanker. This filter is approx 20khz wide and is needed for proper noise blanker operation. The IF tap for a panadapter is placed just ahead of this first filter in the IF chain.

I think you are going to want to look at approx 200khz of spectrum for it to be of real value. I think another good question for Jan is what kind of sound card is he using to ensure it has enough bandwidth.

Your mention of Q-5er brought a smile to my face. Dont hear much about Q-multipliers today even though the TS-830 actually has one as part of the Notch filter.

Terry K9TW

48570. Re: [TS-520_820_530_830] SDR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-18 13:33:24 UTC
From: Bob Lazarow
Topic: 48561 Message: 48570

Terry: Thanks as always, and right on the money.

In this case the Q-5r wasn't a Q multiplier, but used as a multi-stage tunable IF with very sharp selectivity. The ARC5 receivers had IF cans designed for user ability changing of the selectivity skirts by moving a slug in the IF can (not during use)! The low frequency ARC5 was very selective to begin with and included a BFO and audio amp so when using it, all of those features were by-passed in the host receiver,

One more question - Jan mentioned using a step attenuator. Since I don't have one, I was thinking about placing two resistors in series across the 830 IF output, 1 high value one lower as a sort of 90 - 10 tap or some ratio so as not to load down the IF while providing reduced output for the SDR. Any idea what the total resistance might be to start with...or do I go the lazy way and just insert a series resistor to reduce the signal?

BTW if anyone is interested, I have been accumulating information URL's mostly about getting SDR up and running and HAM applications..just let me know...a work in progress.

Thanks Terry,

Bob /WA2JAJ

On 4/18/2014 9:12 AM, wagstw46@... wrote:
>
> Bob
>
>
> You are going to want to pull the IF off for a Panadapter in the IF
> chain Before they start tightening up the pass band. So would not want
> to tap off at 455khz where you are at less than 3khz wide.
>
> In the hybrids they do that by inserting a xtal or ceramic "roofing"
> filter between the RIF amp and the Noise Blanker. This filter is
> approx 20khz wide and is needed for proper noise blanker operation.
> The IF tap for a panadapter is placed just ahead of this first filter
> in the IF chain.
>
> I think you are going to want to look at approx 200khz of spectrum for
> it to be of real value. I think another good question for Jan is what
> kind of sound card is he using to ensure it has enough bandwidth.
>
> Your mention of Q-5er brought a smile to my face. Dont hear much about
> Q-multipliers today even though the TS-830 actually has one as part of

> the Notch filter.
>
> Terry K9TW
>

48571. Re: TS-830 getting new tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-18 13:47:42 UTC
From: <wallydoc@...>
Topic: 48549 Message: 48571

Terry:
I regret that I cannot meet your level of standards. I will continue to read the manuals and not bother you anymore.
Wally

48572. Re: [TS-520_820_530_830] SDR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-18 14:17:10 UTC
From: Jan Servaites
Topic: 48561 Message: 48572

Terry,
I use the basic 48khz sound card in any PC.

Bob,
Build a step attenuator.
http://www.arrl.org/files/file/Technology/tis/info/pdf/September1982_Attenuator.pdf

Jan N8CBX

wagstw46@... wrote:

>
>
> I think another good question for Jan is what kind of sound card is
> he using to ensure it has enough bandwidth.
>
>
>

48573. Re: [TS-520_820_530_830] SDR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-18 14:39:16 UTC
From: Bob Lazarow
Topic: 48561 Message: 48573

Thanks Jan. And thanks to Terry, Mike, and all of the others who help us under very difficult conditions. Maybe The group owners should include a statement in the "Welcome Package" as a reminder that these rigs are not Plug and Play, and that remote diagnoses and repair, often without user training or equipment, is extremely difficult.

On 4/18/2014 10:17 AM, Jan Servaites wrote:
>
> *Terry,
> I use the basic 48khz sound card in any PC.
>
> Bob,
> Build a step attenuator.
> http://www.arrl.org/files/file/Technology/tis/info/pdf/September1982_Attenuator.pdf
>
> **Jan N8CBX*
>
> wagstw46@... wrote:
>
>>
>> I think another good question for Jan is what kind of sound card is
>> he using to ensure it has enough bandwidth.
>>
>>
>

48574. Re: [TS-520_820_530_830] SDR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-18 04:40:19 UTC
From: clifford wright
Topic: 48561 Message: 48574

That looks very interesting indeed. What SDR software are you using? It is definitely different to the SDR#
software I use with mine and looks very handy for signal cleaning up.
My own self contained SDR radio uses an EZCAP "dongle" with my own design of up converter using an
FET double balanced mixer and a mmic IF amplifier with an FET RF stage.
It is so good that I rarely use my Kenwood now except when transmitting.
I can easily hear sub uV signals on it and find it very good indeed. My RX now covers 100 kHz to 1.2 Ghz except for 48 MHz which is my local oscillator for the up converter. BTW I have found that old TTL xtal oscillators can drive up to 10 TTL level loads and as a result can be used with high level mixers like mine.
However using one as an adaptor with the Kenwood looks nice. Not only that it is basically fixed on the Kenwood IF so no setup tuning would be required. Also no RF stage before the mixer just an IF filter.
73 Cliff wright ZL1BDA

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

48575. Re: TS-830 getting new tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-18 19:11:56 UTC
From: <wagstw46@...>
Topic: 48549 Message: 48575

It is not about meeting my standards.

It is all about a mentor or coach being able to use the correct technical and trade parlance and being able to read and follow directions and communicate that to new folks in a professional manner. This hobby is based on science and rf communications fundamentals. What we say and how we say it speaks volumes about our knowledge and abilities.

We are here trying to teach newly licensed people who entered the hobby today in very different way. They dont need to hear about the "positive" antenna connection on the back of their KW hybrid and they should be directed to perform steps in the service manual as written unless there is a proven alternate method that can produce the same results or the manual has proven to be wrong. Using a receiver to neutralize the finals is a perfectly acceptable alternate method. No where in the manual does it tell you to neutralize in SSB mode. There is a reason for that.

I like to set my standards and the expectations for the new people a little higher than curb height. I feel like I owe that to them.

Doc I understand that your heart is in the correct place, but I would be remiss if I did not concern myself with ensuring that new folks are learning how to talk the talk and walk the talk.

When they reach for a piece of test equipment and begin to measure they have moved from the qualitative realm to the quantitative realm and into science and not tribal knowledge, folklore or myth. Far too much of that exists in this hobby.

I meant no personal offense.

Terry K9TW

48576. Re: [TS-520_820_530_830] SDR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-18 19:32:14 UTC
From: <wagstw46@...>
Topic: 48561 Message: 48576

Jan;

OK I will give that a try before I spend money on a 192khz card. I was under the impression needed to do that.

Terry K9TW

48577. Re: [TS-520_820_530_830] Re: TS-830 getting new tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-18 19:52:27 UTC
From: Ron
Topic: 48549 Message: 48577

Well said Terry and thanks for all your help in sharing your knowledge to teach those of us including myself about these fine transceivers and not only u but to all in the group that takes the time from their busy days to mentor those like me that have a thirst to do it the correct way. Again. Thanks !!!

Ron KK4PWF

On Apr 18, 2014, at 2:11 PM, <wagstw46@...> wrote:

>
>
> It is not about meeting my standards.
>
> It is all about a mentor or coach being able to use the correct technical and trade parlance and being able to read and follow directions and communicate that to new folks in a professional manner. This hobby is based on science and rf communications fundamentals. What we say and how we say it speaks volumes about our knowledge and abilities.
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> We are here trying to teach newly licensed people who entered the hobby today in very different way. They dont need to hear about the "positive" antenna connection on the back of their KW hybrid and they should be directed to perform steps in the service manual as written unless there is a proven alternate method that can produce the same results or the manual has proven to be wrong. Using a receiver to neutralize the finals is a perfectly acceptable alternate method. No where in the manual does it tell you to neutralize in SSB mode. There is a reason for that.
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> I like to set my standards and the expectations for the new people a little higher than curb height. I feel like I owe that to them.
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> Doc I understand that your heart is in the correct place, but I would be remiss if I did not concern myself with ensuring that new folks are learning how to talk the talk and walk the talk.
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> When they reach for a piece of test equipment and begin to measure they have moved from the qualitative realm to the quantitative realm and into science and not tribal knowledge, folklore or myth. Far too much of that exists in this hobby.
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> I meant no personal offense.
>
> Terry K9TW
>
>
>

48578. Re: [TS-520_820_530_830] SDR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-18 20:33:31 UTC
From: Jan Servaites
Topic: 48561 Message: 48578

Terry,
I can give you many reason not to go 192khz.

Everyone,
If you don't like to solder the surface mount chips in the Softrock kits
that KB9YIG (fivedash.com) sells, you can buy the completed Softrock
Ensemble II for $92, which is a great, great buy.

Jan N8CBX

wagstw46@... wrote:

>
>
> Jan;
>
>
> OK I will give that a try before I spend money on a 192khz card. I was
> under the impression needed to do that.
>
> Terry K9TW
> <https://groups.yahoo.com/neo;_ylc=X3oDMTJkYWNub2hvBF9TAzk3NDc2NTkwBGdycElkAzc1MjUwMjEEZ
3Jwc3BJZAMxNzA1MDYzMTA4BHNlYwNmdHIEc2xrA2dmcARzdGltZQMxMzk3ODQ5NTM0>
>
> • Privacy
> <https://info.yahoo.com/privacy/us/yahoo/groups/details.html> •
> Unsubscribe
> <mailto:TS-520_820_530_830-unsubscribe@yahoogroups.com?subject=Unsubscribe>
> • Terms of Use <https://info.yahoo.com/legal/us/yahoo/utos/terms/>
> .
>
>

48579. Re: [TS-520_820_530_830] SDR

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-19 03:54:59 UTC
From: clifford wright
Topic: 48561 Message: 48579

Just been following this thread!
Now my SDR simply plugs into a USB2 port and everything gets done there.
All mode demodulation bandwidth and AGC setting and an RF and AF gain
control for the received signal. Of course I also have a RF gain
control on my external unit. How is this SDR system actually connected
to the computer and how many ports does it require?
73 ZL1BDA

This email is free from viruses and malware because avast! Antivirus protection is active.
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48580. Re: [TS-520_820_530_830] Re: TS-830 getting new tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-19 15:32:55 UTC
From: Glenn Crawford
Topic: 48549 Message: 48580

Terry,
When measuring RF voltage on the SO-239, are you talking about a volt meter with an RF probe?
Glenn, W8EXX

-----Original Message-----
From: "" [wagstw46@...]
Date: 04/16/2014 02:17 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: [TS-520_820_530_830] Re: TS-830 getting new tubes

John

It would be best if you could get some help with this. Of course the help may not be familiar with cold neutralizing a KW hybrid rig or be aware of the shock hazard associated with the neutralizing capacitor. Must use an insulate tuning tool. Can use a heat shrinked screw driver, but the metal may affect the null. Can also make a tool from oak dowel rod by filing a flat tang on one end. The capacitor is stiff by design so it does not drift off where you set it.

Best to load rig up on 28.8mhz to approx 100 watts output and then turn off the SG switch on the rear panel.
Not likely that tubes will take off during this loading step.

A separate receiver that covers 10 meters can be used if you have no way to measure RF voltage. Ideally you would couple the output from the TS830 SO-239 connnector into the receiver antenna input using an RF Step Attenuator, but if you dont have one of those then can take a piece of hook up wire and cut each end flush and place tape over the ends so the bare copper cant make any contact and then slip the wire into each SO-239. This will serve as small amount of capacitive coupling for the RF from your 830 to the receiver front end.

You can then tune the receiver to 28.8 mhz and flip the 830 to Send and peak the Drive control for maximum S-meter indication and then adjust the neutralizing capacitor for lowest audio level in the speaker and the lowest indication on the receivers S-meter. If you cant hear or see the signal on the receiver go ahead and skin the insulation off just one end of your jumper wire so that when you plug it in to the SO-239 it makes electrical contact. DO NOT skin off the other end. You need the small (a few pf range) coupling capacitance to limit how much RF you are injecting in to the front end of the receiver.

Not the best method but it will work well enough.

Terry K9TW

48581. Saturday net frequency

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-19 16:58:06 UTC
From: <zen18531@...>
Topic: 48581 Message: 48581

Gents

Out of interest, the Saturday net frequency is out of band for UK amateurs.

Current bandplan can be found here

http://thersgb.org/services/bandplans/html/rsgb_band_plan_jan_2014-1.htm
http://thersgb.org/services/bandplans/html/rsgb_band_plan_jan_2014-1.htm

Upper limit for UK users is 7.200Mhz, with amateurs having primary use of 7.100 to 7.200,
Can listen, but would be naughty to transmit...

Alan
M6XRE

48582. Re: [TS-520_820_530_830] Re: TS-830 getting new tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-19 17:18:07 UTC
From: <wagstw46@...>
Topic: 48549 Message: 48582

Hi Glenn:

Yes to measure and adjust RF voltages anywhere in the KW hybrid radio (Carrier Osc, Het Osc, VFO, VCO, RF drive levels, Product Detector carrier null, Balanced Modulator side band suppression/balance etc) you need one of the following instruments:

1. VTVM and RF probe or DMM and RF probe or FET based analog meter and RF probe. I prefer analog meter for peaking and nulling but absent that can use a digital meter. The RF voltage in the case of neutralizing will be at 28.8 mhz and the VTVM or DMM ac ranges wont read that high so you must rectify that ac voltage (varying at an radio frequency or RF rate) and read it on the meters dc ranges. For neutralizing the VTVM will need to be set on typically the negative 1.5vdc range.

For neutralizing a 1 diode probe will work just fine. About maximum RF voltage you can read with a 1 diode probe is approx 30 volts without destroying the diode. If you are going to use VTVM and RF probe for KW work need two probes. A single diode probe and a 3 diode probe. .

2. An oscilloscope and a scope probe on AC mode. No need for any kind of a detector. Preferably an O-scope with sufficient bandwidth. I wouldnt use an old 5mhz audio scope to look at 28 mhz signal. If all you have available of course give it a try.

3. An RF millivolt meter. This is the best and easiest meter to use, but not commonly owned unless you are serious repair man or builder/experimenter. The RF millivolt meter has diodes built in to its probe. Most can read max of approx 3000mv so have to be careful not to burn out the probe. Must have a 40 dB or 100:1 capacitive divider to make it a complete instrument.

Mike W5RKL and I have previously recommended that all new folks make a VTVM and RF probe their first test gear purchase. Can buy a RF probe or homebrew one.

Terry K9TW.

48583. Re: [TS-520_820_530_830] Re: TS-830 getting new tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-19 17:21:46 UTC
From: <wagstw46@...>
Topic: 48549 Message: 48583

Glenn

I forgot to mention you should terminate the SO-239 with a 50 ohm mini-dummy load if you cannot get access to measure the IR drop across the resistor in your high power dummy load.

Easiest thing to do is to solder a pair of 100 ohm resistors across a PL-259 uhf plug. Leave resistor leads long and solder from center pin to the shell. Now you can connect your RF probe across this 50 ohm load and measure the RF voltage.

Terry

48584. Re: [TS-520_820_530_830] Re: TS-830 getting new tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-19 19:05:08 UTC
From: <wagstw46@...>
Topic: 48549 Message: 48584

Oops--- lead by example. Forgot the K9TW.

Sorry about that.

Terry K9TW

48585. Re: [TS-520_820_530_830] Saturday net frequency

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-19 21:58:43 UTC
From: Jan Servaites
Topic: 48581 Message: 48585

Alan,
I don't think propagation will support a contact into the Saturday's net at that time anyway. I wonder if you could run remote into a USA amateur station?
We welcome you if you can make it somehow?
Jan N8CBX

zen18531@... wrote:

>
>
> Gents
>
>
> Out of interest, the Saturday net frequency is out of band for UK
> amateurs.
>
> Current bandplan can be found here
>
> http://thersgb.org/services/bandplans/html/rsgb_band_plan_jan_2014-1.htm
>
> Upper limit for UK users is 7.200Mhz, with amateurs having primary use
> of 7.100 to 7.200, Can listen, but would be naughty to transmit...
>
> Alan
> M6XRE
>

48586. Re: [TS-520_820_530_830] Re: TS-830 getting new tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-20 04:35:40 UTC
From: Wes Will
Topic: 48549 Message: 48586

On 04/19/2014 12:18 PM, wagstw46@... wrote:

> Yes to measure and adjust RF voltages anywhere in the KW hybrid radio ....
> 1. VTVM and RF probe or DMM and RF probe ....
> For neutralizing a 1 diode probe will work just fine..... A single diode probe and a 3 diode probe. .

Or dig around in the junk box (or a local-ish supplier of salvaged bits) and find or make a very small switch with which you short across TWO of the three diodes in your three-diode probe, making it in effect a one-diode probe for the duration of the switch activation. Saves the fuss of making two probes.....

I made mine inside a "Sharpie" marker body, gutted of it's marker ink supply, lined it with aluminum foil for an RF shield, made a probe of a decorative copper nail, used shrink-tubing on all the components (0.01 uF capacitor, 4.7M ohm resistor, three diodes), and added the smallest pushbutton (PBNO) that I could find at Gateway Electronics in St. Louis, Missouri.

The only thing the button does when pressed is short across two of the diodes in the string of three.

Without pressing the small button, it's a 3-diode probe. Press it, and it's a one-diode probe. Simplicity itself. Seems to work just fine, too.

--
Wes Will
N9KDY

48587. Fw: news

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-20 08:13:33 UTC
From: jmo1241@aol.com
Topic: 48587 Message: 48587

Hi!
News: http://saunamarketi.com/aeb/info.php

jmo1241@...

48588. Re: [TS-520_820_530_830] Re: TS-830 getting new tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-20 11:11:44 UTC
From: <wagstw46@...>
Topic: 48549 Message: 48588

Wes:

Yes good way to approach if you want convenience of a single probe. I like the pushbottom in the fail safe position as opposed to a miniature slide switch that could be mis-positioned.

In both cases just have to remember where you need to use the multi-diodes. Plate of the Driver tube, control grids of the 6146 Finals and across the external dummy load at 100 watts out (approx 71 rf volts). Same with 2 probes have to remember which one to reach for and as Will notes not as convenient.

Of course on the opposite end have to remember with 3 diodes in have to overcome barrier junction of approx 0.25v per diode so wont see anything on your meter if you try to measure TIF signals for example.

Just remember the diode sees the peak of the rf voltage so that is why I suggest not to use the single diode to measure over approx 30 rms rf volts or approx 42 peak volts. Depending on the diode you use could have higher PIV but the 30 volt rule is good one for safety margin. I believe Heathkit says not to measure over 90 volts with their 3 diode PK-3 probe.

If you have never homebrewed anything the RF probe project is a good first one. Take a look at the Classic N5ESE information.

Terry K9TW

48589. Sunday net?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-20 17:00:45 UTC
From: <kk.n8vkx@...>
Topic: 48589 Message: 48589

What freq. is the net on?
Kevin N8VKX

48590. Re: [TS-520_820_530_830] Re: TS-830 getting new tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-20 22:30:10 UTC
From: W5RKL
Topic: 48549 Message: 48590

Hi Terry and Glenn,

Been under the weather, sick with Bronchitis, still no where near out of the woods.

I have a video on my website that shows some of the "basic" test equipment for those members who have never owned and operated simple basic test equipment. The video can be viewed at the following link:

http://w5rkl.com/wp-content/uploads/2014/03/Examples-of-basic-test-equipment.wmv

I also have a video that shows how to use a simple DMM/DVM to measure voltage drop, current, and voltage in a simple series resistor circuit. I also talk about using ohms law to "paper/pencil" calculation that comes up with the voltages, current, and voltage drop shown on the video then follow that by using the DMM/DVM to prove the calculations. The video can be viewed at the following link:

http://w5rkl.com/wp-content/uploads/2014/03/Using-basic-test-equipment-to-measure-voltage-and-current.wmv

The resistors in the above video are small, 1/2 watt carbon film, and are difficult to see but they are wired on the breadboard as I say they are. The circuit drawn on the paper shown in the video is exactly the same as the 3 resistors in series across the 12VDC supply on the breadboard. I measured each resistor individually then took the time to draw the circuit on paper so you could see. If you want more videos on series, parallel, and series/parallel resistor circuits, I have videos on those as well. Simply go to

www.w5rkl.com

and click on the basic instructional video link.

73
Mike W5RKL

On 4/19/2014 12:18 PM, wagstw46@... wrote:
>
> Hi Glenn:
>
>
> Yes to measure and adjust RF voltages anywhere in the KW hybrid radio
> (Carrier Osc, Het Osc, VFO, VCO, RF drive levels, Product Detector
> carrier null, Balanced Modulator side band suppression/balance etc)
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> 1. VTVM and RF probe or DMM and RF probe or FET based analog meter and
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> neutralizing will be at 28.8 mhz and the VTVM or DMM ac ranges wont
> read that high so you must rectify that ac voltage (varying at an
> radio frequency or RF rate) and read it on the meters dc ranges. For
> neutralizing the VTVM will need to be set on typically the negative
> 1.5vdc range.
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> For neutralizing a 1 diode probe will work just fine. About maximum RF
> voltage you can read with a 1 diode probe is approx 30 volts without
> destroying the diode. If you are going to use VTVM and RF probe for KW
> work need two probes. A single diode probe and a 3 diode probe. .
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> 2. An oscilloscope and a scope probe on AC mode. No need for any kind
> of a detector. Preferably an O-scope with sufficient bandwidth. I
> wouldnt use an old 5mhz audio scope to look at 28 mhz signal. If all
> you have available of course give it a try.
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> 3. An RF millivolt meter. This is the best and easiest meter to use,
> but not commonly owned unless you are serious repair man or
> builder/experimenter. The RF millivolt meter has diodes built in to
> its probe. Most can read max of approx 3000mv so have to be careful
> not to burn out the probe. Must have a 40 dB or 100:1 capacitive
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> Mike W5RKL and I have previously recommended that all new folks make
> a VTVM and RF probe their first test gear purchase. Can buy a RF probe
> or homebrew one.
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> Terry K9TW.
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48591. Re: [TS-520_820_530_830] Re: TS-830 getting new tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-20 23:36:14 UTC
From: <wagstw46@...>
Topic: 48549 Message: 48591

Hi Mike

Sorry to hear that. Not fun. Took my wife to Doc just last week for very same thing. She has had it for weeks.

Hope you had as good an Easter as you could under the circumstances.

Take Care
Terry K9TW

48592. Re: [TS-520_820_530_830] Re: TS-830 getting new tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-21 00:23:36 UTC
From: W5RKL
Topic: 48549 Message: 48592

There is something the series resistance video using the breadboard does not say. The DMM meter when connected to measure the circuit's current the meter displayed .187 as the current flowing in the circuit. The DMM was set to measure a maximum of 2ma and when the display showed .187, that's actually 187 micro-amps. It takes 1000 micro-amps to make 1 milli-amp. The same is true where it take 1000 milli-amps to make "1 amp". Learning this is very important otherwise your measurements and/or Ohms Law calculations will be wrong.

73
Mike W5RKL

On 4/20/2014 5:30 PM, W5RKL wrote:
>
> Hi Terry and Glenn,
>
> Been under the weather, sick with Bronchitis, still no where near out
> of the woods.
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> Mike W5RKL
>
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> On 4/19/2014 12:18 PM, wagstw46@... wrote:
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>> Hi Glenn:
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>> Terry K9TW.
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> ----------
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http://www.avast.com

48593. VFO-240 Dial Lights

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-20 23:20:32 UTC
From: <halitousis@...>
Topic: 48593 Message: 48593

I just added a vfo-240 to my station. After determining that it operated correctly I noticed that it appeared that one of the dial lights was not working. When I removed the top I was very surprised, I don't know what I was expecting, but it certainly was not what I found. A big empty box with a self-contained vfo, a switching network and a lot of empty space. How much of a job is it to change the dial lights. Would it be the same procedure as the ts-530s. Looks like access is the big issue.

Bill, KD8OW

48594. Re: [TS-520_820_530_830] VFO-240 Dial Lights

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-21 00:27:50 UTC
From: Joseph Stiles
Topic: 48593 Message: 48594

Bill,

I think that you should be able to remove the 4 screws on the front that hold the VFO in place and slid it forward...the bulbs...I believe are the same as used in the 820 through 830 series
of the KW hybrids

73 Joe
WB7UQU
On Sunday, April 20, 2014 5:25 PM, "halitousis@..." <halitousis@...> wrote:

>I just added a vfo-240 to my station. After determining that it operated correctly I noticed that it appeared that one of the dial lights was not working. When I removed the top I was very surprised, I don't know what I was expecting, but it certainly was not what I found. A big empty box with a self-contained vfo, a switching network and a lot of empty space. How much of a job is it to change the dial lights. Would it be the same procedure as the ts-530s. Looks like access is the big issue.
>
>Bill, KD8OW
>
>
>

48595. RE: [TS-520_820_530_830] VFO-240 Dial Lights

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-21 12:31:27 UTC
From: fpath fpath
Topic: 48593 Message: 48595

Bill,

Very straight forward to change the bulbs. From memory all you have to do is unscrew the front 4 screws and slide the VFO out, normal change over for the bulbs from there. Ken K4EAA has replacements and are very good.

73s

Dave

VK5PDL

From: halitousis@...
To: TS-520_820_530_830@yahoogroups.com
Date: Sun, 20 Apr 2014 16:20:32 -0700
Subject: [TS-520_820_530_830] VFO-240 Dial Lights

I just added a vfo-240 to my station. After determining that it operated correctly I noticed that it appeared that one of the dial lights was not working. When I removed the top I was very surprised, I don't know what I was expecting, but it certainly was not what I found. A big empty box with a self-contained vfo, a switching network and a lot of empty space. How much of a job is it to change the dial lights. Would it be the same procedure as the ts-530s. Looks like access is the big issue.

Bill, KD8OW

48596. Re: [TS-520_820_530_830] Re: TS-830 getting new tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-21 13:22:19 UTC
From: <wagstw46@...>
Topic: 48549 Message: 48596

Mike and New Folks:

I am sure Mike is aware about meter "burden". I have spoken about it here before. Some of the newer folks most likely do not. Quite often the measured milliampere current displayed on a DMM wont be accurate and wont agree with the circuit calcs as the meter is dropping the supply voltage to the circuit.

Ideally when we open a circuit and insert a DMM we would like for that meter to look like a dead short but unfortunately the meter has resistance (impedance) from the leads, the fuse holder, the internal switches etc. which will result in a voltage drop across the meter. With DMMs (especially cheaper low end units) this can be pretty significant. The higher the DMM burden voltage the higher the error in current measurement.

Most folks dont know about it or what the actual burden of their low end DMM is. Most better DMM spec sheets list the burden voltage. Low end ones may not. Some are pretty bad. A high end meter might have a burden voltage of 1.8mv/ma. Might seem odd to be talking about voltage, but that is all any meter really measures.

This means if you are trying to measure 190ma on the 200ma range of your DMM with a burden of 1.8mv/ma you would mulitply 1.8mv x 190ma = 0.342 volts. The DMM itself is dropping 0.342 volts of the circuit supply voltage. So if your test or demo circuit has a 5vdc supply powering it the circuit will have only 4.66vdc available.

You can work the math to see what that voltage drop does to the test circuits current consumption and the error it introduces.

Sometimes it is better to break the circuit and insert a precision .1 ohm resistor and measure the IR drop across it and calculate the current.

I only mention this for new folks who might be tempted to buy the $9.95 Harbor Freight DMM and not realize it has couple of limitations.One being approx 900k input impedance as opposed to 10 to 11 meg ohm and the other having a pretty high burden voltage on the DC ma ranges. I cant remember what it is but it is high.

For most of your KW hybrid work you will never be measuring dc ma circuit currents. I do a little of that and have recorded normal loads for 9vdc regulator, VFO current draw and a few other places, but far more common to measure dc voltages.

So when you buy a DMM suggest you buy as much Speed and Resolution that you can afford and make sure it is a 10 meg input Z meter on all the DC voltage ranges. Also, be aware of the burden voltage so you can be aware of the accuracy limitations of DC ma current measurements.

If you search on You Tube can find some good videos about DMM burden voltage.

Terry K9TW

48597. TS-830S audio distortion cure

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-21 16:15:20 UTC
From: Craig Roberts
Topic: 48549 Message: 48597

There has been one characteristic of my TS-830S that has annoyed me from the outset: receiver audio distortion on strong signal voice peaks. My TS-530S has always sounded cleaner and more 'transparent", as the say in the audiophile world.

I have read that replacing the OEM diodes D20-23 on the IF board with Schottky devices can help clean up the TS-830S receive audio. I have also read that the exercise is useless and not worth the trouble. The sum of these two points of view, a far as I could see, was "can't hurt", so I performed the surgery this morning. Here are my observations:

1) this is NOT a troublesome operation. Swapping the diodes takes about 20-30 minutes with at least some of the time spent in removing and replacing the radio's top and bottom covers and removing and replacing the hold-down screws on the IF board. Once the board is loose, stand the radio on its right hand side and carefully slide the board a couple of inches up off the edge of the chassis to expose the cluster of diodes. Handily, they're right on the edge, so there's no unplugging of Molex connectors or cables to be done.

Remove the stock diodes using Soder-Wick or -- MUCH MORE PREFERABLY -- the extraordinarily handy Hakko 808 desoldering gun as endorsed by Terry Wagoner. With the Hakko, removing all four diodes took fewer than 30 seconds with no danger to the rather fragile Kenwood circuit board traces. If you do much electronic repair and restoration work, this desoldering gun is a MUST HAVE!

2) In my case -- and I cannot speak for anyone else -- the diode substitution DID improve received audio noticeably. Now, my TS-830S is an early, 1-million series radio so MAY have had more "room for improvement" than later models with an upgraded 2nd IF filter (Murata CFJ455K12 vs. the earlier CFJ455K5). I have no idea if the later filter made any real difference in received audio. Just sayin....

To be honest, my TS-530S receiver audio still sounds better than my 830's, but the difference is not nearly as dramatic as it had been. In fairness, it should be pointed out that the 530's receiver is single conversion, which sounds nicer on the low bands than a double or triple conversion radios (according to anecdotal sources, anyway). Another big factor in the audible difference between my two KW hybrids is the SSB filter bandwidths. The 830 utilizes the stock 2.4 KHz filter while I have outfitted the 530 with a couple of terrific Inrad 8-pole filters, including the wider 2.8 KHz SSB model.

Still -- and I emphasize that this is my personal experience only -- the easy-to-accomplish TS-830S diode swap has been worthwhile. If you, too,

have been disturbed by a harsher than desirable audio response from your TS-830S receiver, this half-hour operation may prove useful.

The Schottky diode set is available from Ken Kemski, K4EAA, as part # SD-400.

73,

Craig
W3CRR

48598. Re: TS-830S audio distortion cure

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-21 17:49:46 UTC
From: <wagstw46@...>
Topic: 48549 Message: 48598

Hi Craig:

I think that even without measuring you are 100% correct that the 530 and for that matter all the other hybrids have better sounding receive audio to most folks ears. I have had people ask me who were long time TS520 owners if anything they could do to make their newly acquired 830 sound more like their 520. I must admit that the old 520 with its discrete device OTL circuit does sound better to my ear. So I suppose if most of my operating was rag chewing on 40 and 80 I would prefer more bass presence.

I think we have to remember the full filtered TS830 was really designed as a contesters radio and a CW contesters rig at that. It can still hold its own today in that service.

Of course you know you can adjust the carrier oscillators for a more bass response.

Also there are some mods out there that change out the Low pass filter components in the output of the Product Detector when you are in there swapping out the diodes. If you look at this CRC pi-filter on any of the hybrids will see different values. There are some online calculators that can help select values for given cut-off.

I have also seen some recommendations to change the input and output capacitors in Q4 audio output HA1368R device circuit. The data sheet shows how to select capacitors for given frequency response. I have never done any of these mods and my ear is not sophisticated enough to make any recommendations.

You of course are also correct that the Hakko almost makes childs play out of desoldering and almost eliminates chance of lifting a pad. I say almost as you do need adjust the temp control and not linger! It is real fun to have IC chips literally fall off the PLL board! The amount of work I do I could not function anymore without one.

Terry K9TW

48599. RE: [TS-520_820_530_830] VFO-240 Dial Lights

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-21 17:09:25 UTC
From: <halitousis@...>
Topic: 48593 Message: 48599

I tried extracting the vfo out the front, encountered more resistance than I felt comfortable overcoming. I removed the dial, than removed the front panel and removed the vfo from the back of the panel. Complete access and no undue resistance to overcome. Waiting for Ken, K4EAA, to send replacements.

Bill, KD8OW

48600. Re: [TS-520_820_530_830] Saturday net frequency

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-21 19:32:38 UTC
From: <zen18531@...>
Topic: 48581 Message: 48600

Hi Jan

Now that's a thought.... how would I go about doing it?

Would I be limited to rx only, or is there a way I could 'transmot' as well?

Out of interest, could anyone record a net and post it on, say, youtube? Would be great listening in and putting some voices to names!

Brgds
Alan M6XRE

48601. hacked/hi-jacked email

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-21 19:30:02 UTC
From: Joseph Stiles
Topic: 48601 Message: 48601

Greetings Group,

Over the past few days, it appears that at least one member of this group has had their "AOL" email address hacked/hi-jacked. Both are listed at "QRZ.com" and have valid operating licenses and the "spam email address" matches with the ones listed for them. Please... DO NOT OPENANY EMAIL FROM THEM. I am sure it is not their fault...but you need to be aware:

KD4QFT@...

KA2VBT -- jmo1241@...

AGAIN: I do not place blame on them...just the a..hole that hijacked the addresses

73 Joe
WB7UQU
TS-520_820_530_830 yahoo group Co-owner

48602. Re: [TS-520_820_530_830] Saturday net frequency

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-21 20:07:45 UTC
From: Jan Servaites
Topic: 48581 Message: 48602

Maybe you could phone patch into a USA ham station? Or use the free
"Skype" into a USA station?
Jan N8CBX

zen18531@... wrote:

>
>
> Hi Jan
>
>
> Now that's a thought.... how would I go about doing it?
>
> Would I be limited to rx only, or is there a way I could 'transmot' as
> well?
>
> Out of interest, could anyone record a net and post it on, say,
> youtube? Would be great listening in and putting some voices to names!
>
> Brgds
> Alan M6XRE
>

48603. Re: New Topic Not Showing

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-22 13:26:45 UTC
From: <christopherlarwood@...>
Topic: 48545 Message: 48603

I get great value and help from this group but I sure wish it was a proper forum with threads and posts. Simply because it would make finding the gold contained in posts so much easier to find and accessible. Probably cut out a lot of FAQs and annoyance of similar questions that have already been answered.

The format of yahoo groups with topics and conversations makes searching convoluted as opposed to threads and replies. I'm not having a crack at the group , just the yahoo group mailing list format is not to my liking. If there was any thought being given to an alternative to yahoo, I would be all for it, especially as yahoo can and do make major changes without much if any notice.

Regards
Christopher VK5LTD

48604. Re: [TS-520_820_530_830] Re: New Topic Not Showing

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-22 17:47:59 UTC
From: Gordon JC Pearce
Topic: 48545 Message: 48604

On Tue, Apr 22, 2014 at 06:26:45AM -0700, christopherlarwood@... wrote:
> I get great value and help from this group but I sure wish it was a proper forum with threads and posts. Simply because it would make finding the gold contained in posts so much easier to find and accessible. Probably cut out a lot of FAQs and annoyance of similar questions that have already been answered.
>
> The format of yahoo groups with topics and conversations makes searching convoluted as opposed to threads and replies. I'm not having a crack at the group , just the yahoo group mailing list format is not to my liking. If there was any thought being given to an alternative to yahoo, I would be all for it, especially as yahoo can and do make major changes without much if any notice.
>

I would stop bothering with it if the mailing list was moved to a forum. They're too confusing and hard to use, with all the new "posts" scattered around randomly so you have to hunt for them.

Forums just don't make sense.

--
Gordonjcp MM0YEQ

48605. Re: [TS-520_820_530_830] Re: New Topic Not Showing

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-22 17:43:53 UTC
From: Joseph Stiles
Topic: 48545 Message: 48605

Christopher,

I am a bit confused regarding the above post.

ANY member can go to the "home page" of this group and search "conversations" regarding any topic that may have already been discussed. I agree that it may be time consuming but, I do not have control over how yahoo runs their end.

So, go to the this groups "Home Page," and you can click on "conversations," and enter what you are looking for...for example: "TS-830 low power output" You will be rewarded with
LOTS of conversations/threads regarding this topic. You may also go to the "FILES" area also accessible from the home page...lots of information there too.

Could it be better...yes...but ...as the lame phrase goes...."I only work here."

73 Joe
WB7UQU
TS-520_820_530_830 yahoo group Co-owner

On Tuesday, April 22, 2014 10:05 AM, "christopherlarwood@..." <christopherlarwood@...> wrote:

>I get great value and help from this group but I sure wish it was a proper forum with threads and posts. Simply because it would make finding the gold contained in posts so much easier to find and accessible. Probably cut out a lot of FAQs and annoyance of similar questions that have already been answered.
>
>
>The format of yahoo groups with topics and conversations makes searching convoluted as opposed to threads and replies. I'm not having a crack at the group , just the yahoo group mailing list format is not to my liking. If there was any thought being given to an alternative to yahoo, I would be all for it, especially as yahoo can and do make major changes without much if any notice.
>
>
>Regards
>Christopher VK5LTD
>
>
>

48606. Re: TS-830S audio distortion cure

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-22 21:05:30 UTC
From: <wagstw46@...>
Topic: 48549 Message: 48606

Craig:

I had a fellow contact me yesterday and ask if I would work on a Kenwood R2000 receiver. I have never seen one. I told him I would look at the schematic and see if I could give him some email troubleshooting help.

Looking at the schematic I notice that it uses the same HA1368R audio output device as the TS830. One difference is that instead of a 220uf output capacitor it uses a 1000uf cap. I suspect they went to this value as the receiver has an AM mode?

I plugged the values into one of the on-line coupling cap calculators and here is what I got:

1. 8 ohm Speaker
2. 220uf output cap
3. -3dB frequency = 90.43 hz
4. Optimum low frequency response = 904.29hz or approx 1khz

1. 8 ohm speaker
2. 1000uf output capacitor
3. -3dB frequency = 19.89 hz
4. Optimum low frequency response = 198.9 hz or approx 200hz

If you parallel up a 1000uf with the existing 220uf then Optimum low frequency response would be approx 163 hz.

As I said I have never seen or operated a R2000 so cant speak to the audio response on SSB signals.

You may want to try to parallel up a 1000uf cap across the 220uf on your audio board?

Terry K9TW

48607. Re: [TS-520_820_530_830] Re: TS-830S audio distortion cure

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-22 22:32:57 UTC
From: Craig Roberts
Topic: 48549 Message: 48607

Hmmm. An interesting idea, Terry. I'll give it a whirl and report back.

73,

Craig
W3CRR

48608. Re: [TS-520_820_530_830] Re: TS-830S audio distortion cure

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-23 02:24:11 UTC
From: Craig Roberts
Topic: 48549 Message: 48608

Hey Terry, et al,

Well, I had a 1000uF 16V 'lytic on hand, so i substituted it for C34 (220 uF 16V) on the TS-830S AF board.

As your calculations predicted, Terry, it opened up the receiver bass response noticeably and quite pleasantly due to the added "warmth." The difference is especially dramatic when high fidelity headphones are used.

Great suggestion, Terry. I'd recommend this simple mod to anyone who'd like a bit more bottom end on their received audio. My next move -- as soon as the parts arrive -- is to install a set of 2.7 KHz SSB filters in the radio. I'm looking forward to that.

73!

Craig
W3CRR

48609. Re: [TS-520_820_530_830] Re: TS-830S audio distortion cure

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-23 10:40:39 UTC
From: <wagstw46@...>
Topic: 48549 Message: 48609

Craig;

I am not an audiophile (cant spell euphony!), but have done a little reading on coupling caps and speaker caps. You can Google on speaker coupling caps and will find endless discussions on audio grade caps and some prices that will knock your eyes out.

Mouser and others sell audio grade capacitors. Who knows the condition of the cap you had in the junk box. Maybe bring up a couple of terminal post off the audio board where you could tack in different output caps without folding board over and risks of multiple unsolder/solder operations.

Having VBT control should make 2.7khz xtal filter viable option. Never tried it.

Terry K9TW

48610. Re: [TS-520_820_530_830] Re: TS-830S audio distortion cure

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-23 13:12:53 UTC
From: Craig Roberts
Topic: 48549 Message: 48610

Terry:

Well, my 1000uF 16V coupling cap is new, so no problem there. According to my friend Dennis Had, W4USR, this particular electrolytic should be sufficient in its role.

Denny knows about such things. He is best known in the ham community as the founder of Dentron -- maker of pretty nifty linears and antenna tuners from days of yore. After selling his amateur radio enterprise, he went into the audiophile business (more lucrative, we can imagine) as Cary Audio Design, manufacturer of very high end tube-type audio amplifiers for rich guys. Denny retired a few years ago but still builds experimental amps for grins and has fun upgrading the audio sections of Drake TR-series gear with the aforementioned audio grade caps.

I like your "plug-in" idea, Terry. I may just do that. I am anxious to try the 2.7 KHz SSB bandwidth mods on the 830. As I've mentioned before, I equipped my 530 with an Inrad 2.8 KHz sideband filter (and a 400 Hz CW one, too) and it sounds terrific.

73,

Craig
W3CRR

48611. Re: [TS-520_820_530_830] Re: TS-830S audio distortion cure

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-23 14:08:04 UTC
From: <wagstw46@...>
Topic: 48549 Message: 48611

Craig:

Another thing which you may be aware of is the internal "toy" speaker is limiting as well. An external speaker is an easy enhancement. I always run my TS-830s rigs on the SP-230 remote speaker when not using headphones. I have always wanted to experiment with a DSP speaker, but havent gotten around to it. Some pretty impressive You Tube demos.

Hams since beginning of time have been modifying commercial gear. Heath HW-101 comes to mind. Sometimes those mods even get adopted and incorporated by the manufacturer in subsequent model years. I generally am not too much in favor of modifying the KW hybrids and some people have no business attempting it. Seen some pretty ill conceived and very poorly executed mods.

Changing an IF filter or a speaker coupling cap is pretty innocous and well within the spirit of ham radio days gone past.

With that being said I think you can tell I am not in favor of eSSB or opening up the IF shift or VBT. People do this without thinking about effect on carrier suppression. Of course very much against any and all "hot rodding' or "QRO" mods to gain a few watts output power. I still run into some of the old Magi-com mod boards from time to time.

Only mods I have in my own rigs is final tube arc over protection. Just my personal approach.

Have fun.

Terry K9TW

48612. Re: [TS-520_820_530_830] Re: TS-830S audio distortion cure

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-23 15:38:01 UTC
From: Craig Roberts
Topic: 48549 Message: 48612

I agree with you, Terry. I am of the opinion that the design engineers know a WHOLE lot more than I do about component selections and limitations.

Nevertheless, I do like to mess about with benign audio mods. I has something to do with being an old broadcaster. However, like you, Terry, I am not a big fan of eSSB, though I do marvel at the fidelity of some of the signals I have heard recorded. For me, it's a matter of courtesy to fellow sideband operators. Want to sound like a radio personality? Buy or build an AM rig and hang out with the chatty boys on 3.885.

That being said, I just finishing retrofitting my TS-530S with a 1000uF coupling cap on its AF board, too -- just as I did last night on the 830. Wow! Coupled with the 2.8 KHz Inrad filters, the audio is warm and full. Very, very nice.

Incidentally, I too use the SP-230 outboard speaker or -- better yet -- my 120 watt audio amp and studio monitor speakers.

73!

Craig
W3CRR

48613. Re: [TS-520_820_530_830] Re: TS-830S audio distortion cure

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-23 20:54:53 UTC
From: <wagstw46@...>
Topic: 48549 Message: 48613

OK I am going back to the bench before you trick me into the inevitably next step of debating the merits of bypassing these new 1000uf electrolytic speaker caps.

I think KW design engineers quite appropriately put the small value bypass capacitors where low impedance was needed at the two 900vdc HV filter caps and that is all I will say about that!

Oh and those resistors where we attach those small disc ceramics are more appropriately called "equalizing" or "balancing" resistors and not "bleeders", but now I digress!

73s
Terry K9TW

48614. A dumb band switch question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-25 01:19:57 UTC
From: Joe Reed
Topic: 48614 Message: 48614

Perhaps I'm paranoid, hope not, but I have a question.

I replaced my band switch coupler, and while I had the box open I decided to clean it with some DeOxit. The guy who sold it to me said he cleaned it with some Radio Shack cleaner.

No biggie, replacing the coupler was a snap. Thank you Ken! His web page was awesome. But after hitting the band switch with DeOxit I noticed there were no band stops on Aux or 160. Is this expected? I went back and checked everything, on 10 MHz all the dimples aligned at 9 and S22 was correct. Whew! What am I missing, or not missing anything at all.

73,
Joe N9JR

Sent from my iPad

48615. RE: [TS-520_820_530_830] A dumb band switch question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-25 02:13:15 UTC
From: fpath fpath
Topic: 48614 Message: 48615

Joe,

You are not missing anything, therr id no mechanical switch stop for S22, it will continually rotate.

73s

Dave

VK5PDL

From: joe@...
To: TS-520_820_530_830@yahoogroups.com
Date: Fri, 25 Apr 2014 01:19:57 +0000
Subject: [TS-520_820_530_830] A dumb band switch question

Perhaps I'm paranoid, hope not, but I have a question.

I replaced my band switch coupler, and while I had the box open I decided to clean it with some DeOxit. The guy who sold it to me said he cleaned it with some Radio Shack cleaner.

No biggie, replacing the coupler was a snap. Thank you Ken! His web page was awesome. But after hitting the band switch with DeOxit I noticed there were no band stops on Aux or 160. Is this expected? I went back and checked everything, on 10 MHz all the dimples aligned at 9 and S22 was correct. Whew! What am I missing, or not missing anything at all.

73,
Joe N9JR

Sent from my iPad

48616. Re: [TS-520_820_530_830] A dumb band switch question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-25 02:20:20 UTC
From: Joe Reed
Topic: 48614 Message: 48616

Awesome Dave, and many thanks for the quick answer.

Love this old girl, and FedEx promises to deliver a VFO-240 tomorrow. WooHoo!

Joe N9JR

this msg edited as it contained already posted material- Joe-wb7uqu

48617. Re: [TS-520_820_530_830] A dumb band switch question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-25 11:16:56 UTC
From: <wagstw46@...>
Topic: 48614 Message: 48617

The next time you are in the PA cage pull the front 6146 tube and lube the S22 switch detent balls. After 35 plus years not much lube left on the balls or detent path.

I first clean them off with alchohol (Everclear!) applied with artist brush and rotate several times. Blow dry with canned air. Then using artist brush or sharp pointed toothpick apply small amount of PTFE based grease to each of the detent ball bearings and rotate several times. May apply another small drop on each and repeat one more time.

I use Magnalube G which is kind of expensive. I like the Magnalube because it is very high dielectric and high temp. I am lucky to have a small tube of it left over from my boys motorcycle days.

A good sub might be Super Lube. Absent a PTFE based lube can just use Lubriplate.

Just dont apply too much. I rotate the switch so the ball is facing me and can place it between 2 detents to expose more of the ball bearing surface.

Terry K9TW

48618. KENWOOD GEAR SALE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-25 13:53:16 UTC
From: <raysdz@...>
Topic: 48618 Message: 48618

Hello All.

I have a few extremely nice pieces of Kenwood gear I reluctantly need to sell. ALL pieces are As New both cosmetically and electrically. The following is what is for sale:
TS-830S zero flaws $600 (electrically checked in 2013) Silk smooth tuning LOW Hour back up unit
SP-230 Very Nice $125
MC50 zero flaws (No discoloration of switches) $100

RARE R820 in extremely nice shape. Needs only the dial bulb replaced. Comes with the kit to mate with TS-820. Loaded with all optional filters. $800 + shipping

Units are all boxed in storage and can pull from storage to supply pics if serious interest. .

Shipping extra. CONUS Only

raysdz@yahoo.com

WB8VDS

48619. Re: [TS-520_820_530_830] A dumb band switch question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-25 15:19:49 UTC
From: Joe Reed
Topic: 48614 Message: 48619

Terry,
Thanks for the sound advice. I cleaned the electrical contacts but hadn't thought about servicing the mechanical components of S22.

Joe N9JR

Sent from my iPad

On Apr 25, 2014, at 6:16 AM, "wagstw46@...<mailto:wagstw46@...>" <wagstw46@...<mailto:wagstw46@...>> wrote:

The next time you are in the PA cage pull the front 6146 tube and lube the S22 switch detent balls. After 35 plus years not much lube left on the balls or detent path.

48620. Re: [TS-520_820_530_830] A dumb band switch question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-25 16:02:00 UTC
From: <wagstw46@...>
Topic: 48614 Message: 48620

Yes you are not alone to just focus on the contacts.

Many folks do a lot of spraying "at" as opposed to "in" through out a KW hybrid. I apply the Deoxit to the S22 decks with artist brush to the wipers on each deck and cycle repeated times. If especially black I use a drop or two of D100L. Kind of expensive, but does a great job. Awful lot of D5 being wasted and left soaking plastic and phenolics.

Lubing the detent ball bearings really makes the operation smooth. Of course you want the positive detents, but all electronic rotary switches come with the detent balls and race lubricated from the factory and it can dry out over the years. Many many years ago we would use Andoc and the military speced a lube for all their rotary switches. Just dont want to use anything conductive or that will migrate and less is more!

No rush to do it now. Maybe in a year when you do a spring tune up and blow the dust out and lube the fan bushings and perhaps rotate in your spare finals.

Have Fun

Terry K9TW

48621. Re: KENWOOD GEAR SALE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-25 16:03:51 UTC
From: <wagstw46@...>
Topic: 48618 Message: 48621

Do you know the serial number on the 830? If not, do not unbox it.

Terry K9TW

48622. Re: KENWOOD GEAR SALE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-25 16:16:58 UTC
From: <raysdz@...>
Topic: 48618 Message: 48622

Terry,

Thanks for the reply.

Hoping I would draw some interest from group before listing on QTH.com.

I need to retreive some info on the 830S, so I will forward the serial number.

Side note: I have a lot of liturature and the original manual. I do not have the original Kenwood carton.

I have had the radio for many years, second owner. The radio gets very little use and really is a show quality unit. I have some misc spare parts for it as well. Shaft coupling, bulbs etc.....

Thanks for interest.

Ray

PLEASE remember to sign your posts with your name and call (if any) tnx- Joe-wb7uqu

48623. Re: KENWOOD GEAR SALE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-26 22:38:29 UTC
From: <raysdz@...>
Topic: 48618 Message: 48623

TS-830S tested this morning. Full pwr out and excellent audio reports. Pictures available

Serial number # 2051019

Receive audio is excellent, as any kenwood owner knows.

Ray

48624. Re: KENWOOD GEAR SALE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-27 12:11:13 UTC
From: <wagstw46@...>
Topic: 48618 Message: 48624

Ray:

Thanks. I have a 2M and 4M series and I am looking for clean unmolested 6M series.

You will have no problem selling it. Recent prices on ebay and QTH are quite astonishing.

Good luck

Terry K9TW

48625. Re: [TS-520_820_530_830] Re: KENWOOD GEAR SALE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-27 17:55:08 UTC
From: CROOKS David
Topic: 48618 Message: 48625

Hi Ray,
If it's on sale in this group, it's usefull to state your price. (and your call)
73 Dave f4eyk

48626. Re: [TS-520_820_530_830] Re: KENWOOD GEAR SALE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-27 23:44:34 UTC
From: Dennis Windle
Topic: 48618 Message: 48626

So what are you looking to get for the TS-830 and where are you located
(Zip) ?
Please send me the pictures you have.
KD8OXQ
Dennis

On 4/26/2014 6:38 PM, raysdz@... wrote:
>
> TS-830S tested this morning. Full pwr out and excellent audio reports.
> Pictures availablee
>
> Serial number # 2051019
>
> Receive audio is excellent, as any kenwood owner knows.
>
> Ray
>
>

48627. My TS-820s and a question or two (a hum, a "gritty IF", and tuning)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-28 03:15:44 UTC
From: <les@...>
Topic: 48627 Message: 48627

Now that I have had a General license for about 3 weeks, the rig has been getting a real workout and I cannot be more pleased with her!! 2 of my questions, probably quite normal operation for a 35+ year old rig, I just don't know, so I figured I better ask. My 3rd question, is me wondering if my (bad) habit might be doing some damage.

So, here goes;

1 - I've noticed that if I turn the AF gain up beyond 4'ish, when I key the mic, there is a hum, like feedback (higher AF gain = louder hum). If you have ever turned on the the "moni" and listened to yourself without headphones, this is what it sounds like. An external speaker plugged in to the rear does the same. Headphones in the headphone jack, no issue at all - I can make my ears bleed and turn the AF gain full while keying up all day. Normal or do I have to think about a cap or two replacement soon? Does this with a D-104 (properly wired), an MC-50, or no mic at all (using the send switch. The rig is correctly tuned up and functioning well other than this little "feedback".

2 - The IF Shift feels just a little gritty when turned almost fully CCW. Should I try to hit it with some de-oxit or similar or just not worry about it? I have been pulling in some real good DX with the rig and I can really bring them in by using the IF Shift, as you know - tends to cut right through the QRM.

3 - Sometimes when I switch bands, I forget to set the plate to the approx band before I start the tune process. As soon as I flip to IP and go to adjust the plate, I note my error and start over. Is this brief drive peaking with the plate set to an "improper" band doing any harm. The send/rec switch is only in send for a brief moment and it is always while mode is in tune.

I understand the rig pretty well, but with that said, I know I am far from the expertise and experience of those more knowledgeable here on this group. If my questions have exhibited my inexperience, well - that's a little bit of what it is. My questions are so I can gain some knowledge from those that know!! Please accept my thanks up front!!

More questions next time about my antennas and tuning. I know you are just chomping at the bit for those questions, so stay tuned....

Thanks!!
73

Les
KG7KME

48628. Serial Numbers

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-28 10:14:56 UTC
From: <john@...>
Topic: 48628 Message: 48628

Hello all. I am a little confused over the significance of the serial numbers. I have a TS-830S with the serial number # 3110048. Would I be correct in this means 1981 NOV ?

John / G0RDO

48629. TS-830S Antenna and Mixer coils

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-28 11:46:44 UTC
From: <puttinggreen@...>
Topic: 48629 Message: 48629

After being away from the hobby for over a decade, I found that my trusty ol' TS-830S had not liked being ignored for so many years.

After replacing the HV caps, the driver and screen caps, the RL-1 relay, and a couple resistors; the output came back to 95+ watts on all bands…except 80 meters. On that band I had no ALC reading during tune-up and only 15-20 watts out.

When I went to adjust the coil pack, I noticed both the mixer and antenna coils for 3.5 MHz had disintegrated (L5 and L14). There was hardly anything left to either adjusting core. I pulled the RF board out and removed both 7mm coils. They were identical with the same markings and in the service manual they had the same Kenwood part numbers.

What is the accepted practice for this kind of repair? It seems these shielded variable inductors are getting harder to come by and initially I found them difficult to identify. Several choices came to mind:
- Look for a Kenwood Hybrid Guru that was willing to take two 80 meter coils off a parts board that he had squirreled away somewhere
- Try to find a similar coil with exactly the same core material and thread that would fit into my two Kenwood coils.
- Order Amidon L-33 shielded coils from http://www.amidoncorp.com to replace these 7mm inductors and wind my own… (If I needed 10mm coils I would order the L-44 shielded coils.)
- Take a good guess at what the coils were and look for new ones

I took the last approach. Pushing the biggest piece of core I had left through the coil with a toothpick, I measured the inductance range. It was only a piece of the original core, so I added some extra inductance to my readings and ordered new coils from Coilcraft http://www.coilcraft.com http://www.coilcraft.com/ They were 8.2 uH coils part number 7M3-822 and cost $3.66 each. They would have cost only 62 cents each if I had wanted 5000 of them.

The new coils adjusted up well and my TS-830 has full power on all bands now, but I am left with two questions for the group:

The TS-830 has 27+ of these mystery inductors on the RF board listed in the service manual only by the Kenwood part number. Is there a listing somewhere that identifies them all…not by manufacturer necessarily, but by what they are: inductance, range, Q, etc. This list would be a great addition to the group's Files section.

And the other question: Are there any other alternatives in repairing these broken cores and/or coils that I have not listed?

Herb Watson – AA1IY

48630. Re: [TS-520_820_530_830] My TS-820s and a question or two (a hum, a "gritty IF", and tuning)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-28 12:06:27 UTC
From: CROOKS David
Topic: 48627 Message: 48630

Les,

Your points :
1) Hum is not normal. Maybe due to RF feedback. All bands? Does it vary when tuning-up? What the rig feeding? Try a good dummy load directly connected to rig to see if it still hums.
2) Try Deoxit. Let the solvent evaporate before energising.
3) Brief mismatch in tune is OK but get into a correct routine for tuning. Also make yourself tuning charts.

Stay safe
Dave f4eyk

1 - I've noticed that if I turn the AF gain up beyond 4'ish, when I key the mic, there is a hum, like feedback (higher AF gain = louder hum). If you have ever turned on the the "moni" and listened to yourself without headphones, this is what it sounds like. An external speaker plugged in to the rear does the same. Headphones in the headphone jack, no issue at all - I can make my ears bleed and turn the AF gain full while keying up all day. Normal or do I have to think about a cap or two replacement soon? Does this with a D-104 (properly wired), an MC-50, or no mic at all (using the send switch. The rig is correctly tuned up and functioning well other than this little "feedback".

2 - The IF Shift feels just a little gritty when turned almost fully CCW. Should I try to hit it with some de-oxit or similar or just not worry about it? I have been pulling in some real good DX with the rig and I can really bring them in by using the IF Shift, as you know - tends to cut right through the QRM.

3 - Sometimes when I switch bands, I forget to set the plate to the approx band before I start the tune process. As soon as I flip to IP and go to adjust the plate, I note my error and start over. Is this brief drive peaking with the plate set to an "improper" band doing any harm. The send/rec switch is only in send for a brief moment and it is always while mode is in tune.

48631. Ant and Mix coils

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-28 12:27:56 UTC
From: Craig Roberts
Topic: 48631 Message: 48631

Mornin' Herb,

As you can imagine, or will soon discover, RF Boards for the TS-830S are very scarce but you MAY be able to cannibalize an RF board from another Kenwood radio. Boards are often available on eBay (there's one from a TS-430S listed now, for instance). You'll have to download a service manual from the "donor" radio to determine if it shares the coils in question, of course.

Best of luck,

Craig
W3CRR

48632. Re: My TS-820s and a question or two (a hum, a "gritty IF", and tuning)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-28 12:35:22 UTC
From: <les@...>
Topic: 48627 Message: 48632

The rig does this with three different antennas, one being a home brew end fed random wire for 10 meters, the other two are end fed dipoles (one for 20, one for 40). It also has the hum when tuned into a dummy load. The "hum" is identical on all bands. The hum only varies as the AF gain is adjusted. Is the lack of any feedback (0 feedback hum at all) while using headphones an indication of any specific circuits?

Thanks!!

Les
KG7KME

48633. Re: [TS-520_820_530_830] TS-830S Antenna and Mixer coils

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-28 12:45:59 UTC
From: Craig Roberts
Topic: 48629 Message: 48633

On 4/28/2014 7:46 AM, puttinggreen@... wrote:
>
> After being away from the hobby for over a decade, I found that my
> trusty ol' TS-830S had not liked being ignored for so many years.
>
> After replacing the HV caps, the driver and screen caps, the RL-1
> relay, and a couple resistors; the output came back to 95+ watts on
> all bands…except 80 meters. On that band I had no ALC reading during
> tune-up and only 15-20 watts out.
>
> When I went to adjust the coil pack, I noticed both the mixer and
> antenna coils for 3.5 MHz had disintegrated (L5 and L14). There was
> hardly anything left to either adjusting core. I pulled the RF board
> out and removed both 7mm coils. They were identical with the same
> markings and in the service manual they had the same Kenwood part
> numbers.
>
> What is the accepted practice for this kind of repair? It seems these
> shielded variable inductors are getting harder to come by and
> initially I found them difficult to identify. Several choices came to
> mind:
>
> - Look for a Kenwood Hybrid Guru that was willing to take two 80
> meter coils off a parts board that he had squirreled away somewhere
>
> -Try to find a similar coil with exactly the same core material
> and thread that would fit into my two Kenwood coils.
>
> - Order Amidon L-33 shielded coils from http://www.amidoncorp.com
> to replace these 7mm inductors and wind my own… (If I needed 10mm
> coils I would order the L-44shielded coils.)
>
> -Take a good guess at what the coils were and look for new ones
>
> I took the last approach. Pushing the biggest piece of core I had left
> through the coil with a toothpick, I measured the inductance range. It
> was only a piece of the original core, so I added some extra
> inductance to my readings and ordered new coils from Coilcraft
> http://www.coilcraft.com <http://www.coilcraft.com/> They were 8.2 uH
> coils part number 7M3-822 and cost $3.66 each. They would have cost
> only 62 cents each if I had wanted 5000 of them.
>
> The new coils adjusted up well and my TS-830 has full power on all
> bands now, but I am left with two questions for the group:
>

> The TS-830 has 27+ of these mystery inductors on the RF board listed
> in the service manual only by the Kenwood part number. Is there a
> listing somewhere that identifies them all…not by manufacturer
> necessarily, but by what they are: inductance, range, Q, etc. This
> list would be a great addition to the group’s /Files/ section.
>
> And the other question: Are there any other alternatives in repairing
> these broken cores and/or coils that I have not listed?
>
> Herb Watson – AA1IY
>
>

48634. Re: [TS-520_820_530_830] TS-830S Antenna and Mixer coils

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-28 12:50:35 UTC
From: Craig Roberts
Topic: 48629 Message: 48634

Ooops! Pardon me. Somehow, I managed to retransmit Herb's original message. I'm not sure how that happened and I don't wish to think about it.

73,

Craig
W3CRR

48635. RE: [TS-520_820_530_830] TS-830S Antenna and Mixer coils

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-28 13:17:02 UTC
From: fpath fpath
Topic: 48629 Message: 48635

Herb,

I once had a heap of old CB radios and based on the era of those radios and that of the 830s\530s, I managed to pull a few of the slugs which are a good fit. The slugs were identical in length and on a comparison after I replaced the slugs they seemed to be within a 1\32 of the original depth, once re-aligned. But over here it is getting harder to find the old CB's for tech speical prices.

73s

Dave

VK5PDL

48636. Re: My TS-820s and a question or two (a hum, a "gritty IF", and tuning)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-28 14:22:00 UTC
From: <wagstw46@...>
Topic: 48627 Message: 48636

Is the VOX off?

Is the Moni off?

Using the Phone patch jacks?

Have you tried an external/remote speaker?

Terry K9TW

48637. Re: [TS-520_820_530_830] Re: My TS-820s and a question or two (a hum, a "gritty IF", and tuning)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-28 18:09:04 UTC
From: CROOKS David
Topic: 48627 Message: 48637

Les,

Using dummy load in TUNE, see if the hum varies with change of CAR.
If so, check for RF in shack.
If not, over to Terry, Mike, ...

Dave f4eyk

48638. TS-830S Bias CapNut...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-28 18:34:45 UTC
From: <billgv@...>
Topic: 48638 Message: 48638

Hi all!

I picked up a very nice TS-830S with an MC-50 and SM-220 at a hamfest a couple of weeks ago. Wish I could have picked up the rest of this very complete and clean hybrid station. It was from an SK estate and must have been resting for a long time as it shows very little usage. The WARC bands hadn't even been enabled. ;) Since these rigs don't like inactivity, it needed the usual switch, pot, variable cap cleanup. The shaft couplers and nylon gears show no signs of cracking. The shaft couplers in the SM-220 did, so I replaced them as preventive maintenance. Other that what I am assuming is normal warmup drift with the BS-8, it is also fun to use. The net check in that I was able to make last week got good reports. It has taken the place of honor from my TS-820S setup...

One thing that I am looking for is the cap nut that goes on the bias pot. For some reason it is missing and I have already bumped it once. It's not the same as the one on the TS-820S.

73!

Bill - N7YGU

48639. Re: My TS-820s and a question or two (a hum, a "gritty IF", and tuning)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-28 16:31:06 UTC
From: <les@...>
Topic: 48627 Message: 48639

Is the VOX off?
Yes

Is the Moni off?
Yes - but the symptom mimics what would happen if you had the moni on - feedback through the speaker. I've attempted to rule out any inaudible signal by using a different mic, muffling the mic and speaker (put my hand over them) and removing the mic completely. "Feedback" continues at the same level regardless of manner of muffling.

Using the Phone patch jacks?
No

Have you tried an external/remote speaker?
Sort of - wired up a few different computer speakers for the rear ext speaker jack - they have the same exact result as the rig speaker.

Thanks!!

Les
KG7KME

48640. Re: [TS-520_820_530_830] Re: My TS-820s and a question or two (a hum, a "gritty IF", and tuning)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-28 18:44:35 UTC
From: <les@...>
Topic: 48627 Message: 48640

And let me sign that last message....

Les

KG7KME

48641. Re: [TS-520_820_530_830] Re: My TS-820s and a question or two (a hum, a "gritty IF", and tuning)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-28 18:44:04 UTC
From: <les@...>
Topic: 48627 Message: 48641

Tuned into dummy load, no change when CAR is adjusted - nice steady hum as the carrier is adjusted up or down. Only thing that seems to cahnge the hum is adjusting the AF Gain up or down.

48642. Re: [TS-520_820_530_830] Re: My TS-820s and a question or two (a hum, a "gritty IF", and tuning)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-28 20:15:15 UTC
From: <wagstw46@...>
Topic: 48627 Message: 48642

Well ordinarily I would suspect bad power supply filter capacitors if you have 120hz "hum". What confuses me is the feedback that you report that mimics having the Moni turned on and the audio output to the Speaker instead of the Headphones.

To me the sound of feedback that I am familiar with is very different than the sound of hum.

Just so I am certain you say that there is no HUM or FEEDBACK when you are on the Headpones. Is that correct?

Maybe a You Tube video is in order so we can hear what you are hearing?

Terry K9TW

48643. Re: [TS-520_820_530_830] Curious about your antenna setup with Kenwoods

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-28 20:58:54 UTC
From: Craig Roberts
Topic: 43005 Message: 48643

Ah, antennas. While I envy the guys in Europe who -- mysteriously -- seem to be able to afford a "seven element 40 meter monoband Yagi on top of the mountain I own" or the fellas out west who have the real estate to set up a "Sterba curtain on 80 with an eight element phased vertical array for 40 with stacked 5 element monobanders for the higher bands" (and they're always running 2 KW, anyway).

I, like many of we mortals, am operating barefoot out of a small suburban lot.

Several years ago I built an experimental Moxon antenna out of PVC pipe and aluminum tubing. It worked very well and I got many requests for plans after it was featured on an antenna junkie website. The problem was that it was only for 20 meters. To augment it, I slung a dipole up for 40, which just barely fit from corner to corner on my property. Wanting to work more bands, I took down that pair and tried an all-band TTFD (tilted terminated folded dipole); a configuration derived from a WWII era radar antenna. As promised. it loaded up on several bands 80-10 -- but basically because it presented dummy load-like impedance to the radio with not dissimilar results.

Then, about a year ago -- just about the time I became a Kenwood hybrid devotee -- I strung up a 55' long doublet fed with ladder line at about 25' AGL (above ground level). It needed a tuner, so I built one consisting of two identical 19 uH roller inductors synced with a pair of miniature pulleys and timing belt followed by a 250 pF transmitting variable cap. With this thing, mounted on a hunk of pine wood, I can tune any frequency from 7.0 to 29.0 to an SWR of 1:1 to 1. If I switch in a variable cap ahead of the homebrew tuner (courtesy of my AT-230 tuner which also acts as my wattmeter), I can work 80/75 meters as well.

As modest and a simple as this antenna setup is, I get consistently flattering signal reports on all bands-- usually S9 and above, more often 10 -20 dB over 9. The good performance (the overall best I have had with any multi-band antenna in 44 years) may very well be due to the fact that I am feeding the antenna with homemade ladder line which is virtually lossless at the 45 foot shack-to-feedpoint length I use. Also, there are no connectors on the antenna. Each side of the ladder line and doublet are one, continuous length of #14 insulated wire; the two sides separated at the feed point by a simple center insulator. At the shack end, the two feed line elements are connected directly to the tuner's variable cap -- one side to stator, the other to rotor.

Oh -- a balun is needed between the radio and the tuner, but that's simple. It's a so-called choke balun; about 30 feet of RG-58u coax wound

around a 4-inch cardboard mailing tube. It works perfectly and, as a bonus, cured all my "RF in the shack" ills.

By the way, if anyone's interested in building a similar tuner for balanced feed lines, I have a pair of matched roller inductors and a new transmitting cap for sale. "Enquire within."

73,

Craig
W3CRR

48644. Re: [TS-520_820_530_830] Re: My TS-820s and a question or two (a hum, a "gritty IF", and tuning)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-28 20:35:53 UTC
From: <les@...>
Topic: 48627 Message: 48644

"Just so I am certain you say that there is no HUM or FEEDBACK when you are on the Headpones. Is that correct?"

Correct.

Maybe "feedback" was a bit of a misleading way to identify what is happening - that's why I tried to "quote" it every time I referred to the suspected problem. To me that was the best way I could think to describe the sound. During normal usage and I turn up the AF Gain, say to hear a weak station, if I do not turn down the AF Gain before I transmit, a noise that sounds like feedback (to me) is heard (through the speaker. If I am using headphones, I can turn the AF Gain full blast!). If the AF Gain is above approx "4", this happens. As you know, normally, a setting of "4" is quite loud to begin with. Recently, I have been getting some decent DX contacts, but I have had to turn up the gain to hear them and that is when I noted the "feedback"

If you want, we can meet on the air - I'll bet the "feedback" gets transmitted. Otherwise, I'll see if I can come up with a method to video this for you.....

Thanks again for everything!!

Les
KG7KME

48645. Re: My TS-820s and a question or two (a hum, a "gritty IF", and tuning)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-28 20:49:50 UTC
From: <les@...>
Topic: 48627 Message: 48645

Yeah - I think I have the youtube uploading figured out now. I'll make a quick vid later tonight when I get home from work. You should be able to see what I mean, then...

Thanks for all the help you have offered so far..

Les
KG7KME

48646. Neutralizing TS-530S after many years of use

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-28 23:23:11 UTC
From: <louis.wilen@...>
Topic: 48646 Message: 48646

My TS-530S hasn't had it's neutralization checked since I bought it brand new in 1982. Although it's 32 years old, it's had only about 14 years of moderate and careful use. It's been tuned up carefully and loaded it into a near 50 ohm load as far as I can remember. The rig is works as well as the day that I bought it.

Everything that I've read says that once the finals are neutralized, they don't ever need to be neutralized again (until they are changed.) But I figured what the heck, it's been 32 years, why not check?

So I took my (recently calibrated by Fluke) Fluke 179 DVM and Fluke 85RF probe and an "accessible" dummy load (a PL-259 with a 51 ohm resistor mounted in it) and followed the instructions in the TS-530S user manual for neutralization.

To my surprise, the initial output voltage was 35 mV. (I expected around 10 mV.)

Neutralization was easily accomplished, and the final DVM reading was 2.4 mV.

The rig still works fine after this "unnecessary" neutralization.

1. Since the capacitance of tubes (supposedly) doesn't change over time, why was I able to neutralize to a lower voltage level?

2. Is it likely that the rig was poorly neutralized at the factory?

3. Does the capacitance of tubes typically change over very long periods of time and over many hours of use?

4. Might some other component besides the tubes have changed value over time, which then caused the neutralization to be affected? If so, what component might that be?

Thanks for any replies.

Louis
W3LMW

48647. Kenwood Hyrbrid Net Update (April 28, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-29 00:44:07 UTC
From: Mark Gilger
Topic: 48647 Message: 48647

Dayton Hamvention Kenwood Legacy Forum:
This year will be the first year for the Kenwood
Hybrid Legacy Forum to be held at the Dayton
Hamvention. The forum will be Sunday May 18th.,
room #2, 10:30 □ 11:30. The following preliminary agenda has been proposed:

```
* History of the legacy products.
* Resource help with parts, documentation, etc..
* SDR integration into the legacy line.
* Rewinding a TS-830 L41 coil.
* Tips & Hints.
* Questions and Answer Technical Session
We hope to see you there.
```

```
Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net
```

```
Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHo
mePage.htm
```

The net recently celebrated it□s 2nd year in
existence on November 1st, 2013. The yearly
check-in totals are posted at the bottom of this
message. It showed we had a 10% increase in our
Saturday check-ins and an 8% on Sunday as compared to the 2012 check-ins.

```
The net was run by me, WB0IQK. There were
17stations checking in under poor band
conditions. There were 4 new stations checking
in, KK4PWE, N2RTD, AC8FJ, and KD8VUX. We had the
following number of radios checking in.
```

```
1 running TS-520(x)
4 running TS-530(x)
3 running TS-820(x)
1 running TS-830S
```

```
I was running my TS-940S with L4B amp.
```

```
There was no Sunday 20 meter net. All of the net
controls could not do the net.
```

We have been having several people checking in
regularly with their TS-430, TS-440, and
TS-940□s, which of course is not a hybrid,

although over 30+ years old. Everyone is welcome
as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a
net control station, please send me an email.
Currently it's just myself, WB2KNR and WB0SGA. I
would like to get several more. If we do, we can
alternate so everyone might be on a 3-4 week
rotation. It's a lot of fun and a good way to
make sure you station is optimized.

For anyone that has not heard, we have a new web
site that WB4HFN is hosting. He currently has a
very nice site for Drake, Collins and Heathkit
and now Kenwood Hybrids. Good quality manuals
plus sale flyers and brochures will be found
here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 ☐ Oct. 2012 Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins

November 2013, Saturday☐s net total = 94, Sunday☐s total = 85
December 2013, Saturday☐s net total = 87, Sunday☐s total = 103
January 2014, Saturday☐s net total = 71, Sunday☐s total = 82
February 2014, Saturday☐s net total = 80, Sunday☐s total = 85
March 2014, Saturday☐s net total = 82, Sunday☐s total = 73
April 2014, Saturday☐s net total = 64, Sunday☐s total =43 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

48648. Re: My TS-820s and a question or two (a hum, a "gritty IF", and tuning)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-28 23:38:09 UTC
From: <les@...>
Topic: 48627 Message: 48648

This should get you to the video...

Hoping to describe TS820s feedback/hum issue https://www.youtube.com/watch?v=o-WTS-8HbyM

https://www.youtube.com/watch?v=o-WTS-8HbyM

Hoping to describe TS820s feedback/hum issue https://www.youtube.com/watch?v=o-WTS-8HbyM
See the title - just posting so that my explanation is a little better.

View on youtube.com https://www.youtube.com/watch?v=o-WTS-8HbyM
Preview by Yahoo

Thanks for all your help!!!

Les
KG7KME

48649. frequency counter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-29 01:40:50 UTC
From: <n0dks1@...>
Topic: 48649 Message: 48649

Hi everyone

I have a frequency counter that i would like to hook up to a ts-520, this is not the ts-520s.
The counter is the type that you put at the coax end of the radio, and I was wondering if this would work ?

Thanks
Dave n0dks

48650. Re: My TS-820s and a question or two (a hum, a "gritty IF", and tuning)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-29 03:06:58 UTC
From: <les@...>
Topic: 48627 Message: 48650

Something I just noted, I think it is fairly relevant. The hum/feedback - it happens with the heater OFF as well.

KG7KME

48651. Re: [TS-520_820_530_830] frequency counter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-29 03:52:49 UTC
From: Joseph Stiles
Topic: 48649 Message: 48651

Dave,

If the frequency counter has connections (PL-259 or BNC) for the "antenna" & "transmitter" is should work fine...but...it will most likely show the frequency only when transmitting. Check the specs..if available..to make sure the sampling sensor can handle the 100W output of your rig.

73 Joe
WB7UQU
On Monday, April 28, 2014 6:40 PM, "n0dks1@gmail.com" <n0dks1@...> wrote:

> Hi everyone
>
> I have a frequency counter that i would like to hook up to a ts-520, this is not the ts-520s.
>The counter is the type that you put at the coax end of the radio, and I was wondering if
>this would work ?
>
> Thanks
> Dave n0dks
>
>
>
>
>
>
>
>

48652. Re: My TS-820s and a question or two (a hum, a "gritty IF", and tuning)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-29 11:40:04 UTC
From: <wagstw46@...>
Topic: 48627 Message: 48652

Les:

This is why we need to hear it. It is not a "hum". Electronic techs think of a "hum" at a very low audio frequency. Normally at 120hz and this is due to fact that the rig is powered by the 60hz 120VAC line and the power supply rectifies this AC and filters it with electrolytic capacitors and the ripple content is at 120hz and as the capacitors age this "hum" becomes more noticeable and can be very excessive. Poor grounding can also result in a HUM. The HUM is resident on the 9vdc, 14vdc, 12vdc etc bus lines that supply the various circuits. If the HV filter caps get leaky the HUM can be heard on your transmit audio.

Anyway I would say you do not have a HUM on any of the supply voltages. It sounds to me like you have Feedback that is causing oscillation at a much higher audio frequency than 120 hz. With the mic disconnected it would appear this is not audio feedback thru that chain.

It almost sounds to me like your "detector" for Remote VFO calibration is not being cut off? This has to do with VFB/VFC and diodes D3 and D4 on the AF board. It sounds like to me that Audio pre-amp Q2 on the AF board is not being cut off when you flip to Send. RL on Pin 1 of AF-3 accomplishes this.

I think I would try cleaning Molex connector AF-3 on the Audio/AVR board as a first step. Then we can measure some voltages at AF-3 including RL if cleaning doesnt resolve the problem.

I have never seen this before so have to think about it some more. Perhaps someone else has seen it and can jump in and help you.

Terry K9TW

48653. Re: [TS-520_820_530_830] frequency counter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-29 16:29:34 UTC
From: John Davidson
Topic: 48649 Message: 48653

You need a steady carrier on for a regular counter to read a freq. If you are a SSB operator it would not be able to read the freq. Alternately you could couple it to the VFO but it would read the 5 MHz freq and not the on-air freq.
On Monday, April 28, 2014 9:40 PM, "n0dks1@..." <n0dks1@gmail.com> wrote:

Hi everyone

I have a frequency counter that i would like to hook up to a ts-520, this is not the ts-520s.
The counter is the type that you put at the coax end of the radio, and I was wondering if this would work ?

Thanks
Dave n0dks

48654. Kenwood R-820 Receiver For Sale

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-29 16:04:39 UTC
From: <raysdz@...>
Topic: 48654 Message: 48654

I have a very nice R-820 receiver for sale. The R820 is in great shape both cosmetically and electrically. No visible wear on both the covers or front panel. The only need is the analog tuning dial lamp needs replaced. I could always read the dial OK as is and felt no need to replace till I really needed to open her up. Front panel is flawless, dial lenses are clear and the digital readout is bright.

The receiver has the optional filters installed. I also have an unused kit which allows the R-820 to be mated to a TS-820 transceiver.

Manual included. A real hard to find receiver and this one plays and looks great too. I can supply pictures on request.

Asking $800 + S/H US Only

Thanks for reading.

Ray WB8VDS
raysdz@yahoo.com

48655. Near flawless, upgraded Kenwood TS-530S for sale

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-29 17:38:26 UTC
From: Craig Roberts
Topic: 48649 Message: 48655

*For sale: Near flawless Kenwood TS-530Swith Inrad filters and many other upgrades.
*

*This radio has been restored to better than new condition.
*

S/N 202XXXX

I bought this superb radio about a year ago in inoperative condition. It was far from a basket case, however.According to its previous owner, this beautiful Kenwood hybrid had been used for a few weeks when new, then repacked into its original boxes (which you'll get) and stored away for decades.When I got it , it looked essentially brand new. The reason it didn't work was the fact that the band switch, other switches, pots and connectors had lain idle for many years.A thorough cleaning of all affected components, however, brought the radio to life -- flawlessly.

I then went to work upgrading this 530 to prevent future problems and increase its already superb performance.

For enhanced performance, I:

?Installed a new Inrad 2.8 KHz SSB filter

?Installed a new Inrad 400 Hz CW filter

?Installed a Kenwood 1.8 KHz SSN / CW filter

So, the radio now transmits and receives SSB with a beautiful sounding 2.8 KHz IF bandwidth. Selecting "Narrow" position on the mode switch yields a 1.8 KHz receive bandwidth in SSB. Normal CW receive bandwidth is now 1.8 KHz and the "Narrow" selection cuts it down to a discrete 400 Hz.Gorgeous!

As preventative maintenance, I:

?Installed new HV components (HV electrolytics and final amp cage parts)

?Installed HV protection mod (per Terry)

?Replaced cathode and screen resistors

?Replaced nylon band switch coupler with brass component from Ken, K4EAA

?Replaced RL-1 on AF Board with new component from Ken, K4EAA

?Rebuilt band switch using wire jumpers to prevent "corroded rivet syndrome"

For looks, I,

?Removed and cleaned front panel and knobs

?Replaced cabinet hardware with stainless steel screws

And, for good measure, I:

?Replaced final and driver tubes

The radio was then aligned by a top tech to factory specs (including neutralization of new finals)

As you can imagine, the radio now looks fantastic and performs perfectly on all bands (100+ watts @ a conservative 225 mAwith beautiful transmit and receive audio).

I am asking $695.00 for this radio (includes shipping in its ORIGINAL BOXES to the lower 48 states). That may seem high for a TS-530S, but the new Inrad filters alone represent $250 of that price.Plus, this radio is a completely trouble --free and cosmetically pristine example.

Payment ($695.00, shipping included) to Pay Pal is preferred, please. If you are unhappy with the radio (I can't imagine that, but..) I will accept a return for refund within 14 days.

Photos are available. Please email me at crgrbrts@...

Many thanks and 73,

Craig

W3CRR

48656. Re: [TS-520_820_530_830] frequency counter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-29 18:09:58 UTC
From: Mike W5RKL
Topic: 48649 Message: 48656

Dave,

I would not waste time using that counter. The counter you are considering using will not display the frequency in receive and since sideband has carrier with audio present only during transmit, the counter will more than likely display zero or be blank during receive.

My advice is if you want a digital frequency display for your TS-520 then I would look for and purchase the DG-5 that's designed to work with the TS-520 in receive and transmit.

73
Mike W5RKL

On 4/28/2014 8:40 PM, n0dks1@... wrote:
>
> Hi everyone
>
> I have a frequency counter that i would like to hook up to a ts-520,
> this is not the ts-520s.
> The counter is the type that you put at the coax end of the radio, and
> I was wondering if
> this would work ?
>
> Thanks
> Dave n0dks
>
>
>
>

48657. Re: My TS-820s and a question or two (a hum, a "gritty IF", and tuning)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-29 21:13:52 UTC
From: <wagstw46@...>
Topic: 48627 Message: 48657

Les:

I wonder if what you are hearing is your side tone oscillator? I did have a 820 rig long time ago with shorted D19 in the RC network path and oscillator then gets feedback it needs to oscillate.

Try adjusting VR-3 (white trimmer pot) on AF/AVR board to see if you can effect the volume level. If you can then you know it is side tone signal

Also, what test gear do you have? Can you measure the level and frequency of the signal at VFB at Conn AF-3? It should be approx 200mv of 5Mhz VFO signal. (5.300mhz with VFO at 200). The more I think about it it is unlikely problem is coming in on the VFB line.

Terry K9TW

48658. RE: [TS-520_820_530_830] Near flawless, upgraded Kenwood TS-530S for sale

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-29 22:48:33 UTC
From: fpath fpath
Topic: 48649 Message: 48658

Craig,

IS this a 530 or 830? Your email said replaced RL1 on the AF board, RL1 on a 530s is on IF board

73s

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: crgrbrts@...
Date: Tue, 29 Apr 2014 13:38:26 -0400
Subject: [TS-520_820_530_830] Near flawless, upgraded Kenwood TS-530S for sale

For sale: Near flawless Kenwood TS-530S with Inrad filters and many other upgrades.

This radio has been restored to better than new condition.

S/N 202XXXX

I bought this superb radio about a year ago in inoperative condition. It was far from a basket case, however. According to its previous owner, this beautiful Kenwood hybrid had been used for a few weeks when new, then repacked into its original boxes (which you'll get) and stored away for decades. When I got it , it looked essentially brand new. The reason it didn't work was the fact that the band switch, other switches, pots and connectors had lain idle for many years. A thorough cleaning of all affected components, however, brought the radio to life – flawlessly.
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For enhanced performance, I:
· Installed a new Inrad 2.8 KHz SSB filter
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So, the radio now transmits and receives SSB with a beautiful sounding 2.8 KHz IF bandwidth. Selecting "Narrow" position on the mode switch yields a 1.8 KHz receive bandwidth in SSB. Normal CW receive bandwidth is now 1.8 KHz and the "Narrow" selection cuts it down to a discrete 400 Hz. Gorgeous!
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· Installed new HV components (HV electrolytics and final amp cage parts)
· Installed HV protection mod (per Terry)
· Replaced cathode and screen resistors
· Replaced nylon band switch coupler with brass component from Ken, K4EAA
· Replaced RL-1 on AF Board with new component from Ken, K4EAA

· Rebuilt band switch using wire jumpers to prevent “corroded rivet syndrome"
For looks, I,
· Removed and cleaned front panel and knobs
· Replaced cabinet hardware with stainless steel screws
And, for good measure, I:
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The radio was then aligned by a top tech to factory specs (including neutralization of new finals)
As you can imagine, the radio now looks fantastic and performs perfectly on all bands (100+ watts @ a conservative 225 mA with beautiful transmit and receive audio).

I am asking $695.00 for this radio (includes shipping in its ORIGINAL BOXES to the lower 48 states). That may seem high for a TS-530S, but the new Inrad filters alone represent $250 of that price. Plus, this radio is a completely trouble –free and cosmetically pristine example.
Payment ($695.00, shipping included) to Pay Pal is preferred, please. If you are unhappy with the radio (I can't imagine that, but..) I will accept a return for refund within 14 days.

Photos are available. Please email me at crgrbrts@verizon.net

Many thanks and 73,
Craig
W3CRR

48659. Re: [TS-520_820_530_830] Near flawless, upgraded Kenwood TS-530S for sale

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-30 00:29:26 UTC
From: Craig Roberts
Topic: 48649 Message: 48659

Dave found my typo regarding the location of RL1. The radio for sale IS
a TS-530S with the replaced relay on the IF board.

73,

Craig
W3CRR

48660. Re: Neutralizing TS-530S after many years of use

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-30 13:28:31 UTC
From: <wagstw46@...>
Topic: 48646 Message: 48660

Louis

I did not see a response.

1. Think about what you are doing and the significance of 35mv versus 2.4mv null. Not sure how you could have had any expectation for a particular level unless comparing to other TS530S rigs that you have neutralized? The minute you touch the Plate Tune capacitor or the VFO at your "perfect" null it will change. When you got that 2.4 mv null did you then rock the Plate Tune capacitor back and forth to obtain another peak in RF voltage? If not, then you dont have "perfect" neutralization. You can always get it a little better null by peaking the RF voltage after each null with the Plate tune capacitor. Can do this two or three times until reach point of diminishing returns. However, it is really a waste of time. As noted the moment you move VFO from 28.8mhz or whatever frequency that you neutralize at the RF voltage will start back up.

2. The factory uses test jigs and employs production workers to do adjustments like this and I doubt they had any RF voltage level in mind just a "go-no-go" null using the easiest detector for a non-technical person. I doubt the factory did a poor job just not as meticulous as you were trying to do and certainly not measuring to 0.10 mv.

3. The tube data sheets (depending on manufacturer) shows a maximum of 0.22pf capacitance between the control grid and the plate. That is a very very small amount of capacitance and notice that it is a maximum value which infers there will be a range. The capacitor is formed from the metal grid winding and the metal plate and the vacuum dielectric. I suppose over time and many heat and cool cycles that the grid wires could sag a little and perhaps move closer or further from the plate and the inter-electrode capacitance could change ever so slightly.

4. Neutralization is only good for the band you are doing it on and most effective at the frequency you are doing it on. 10 meters is where it should be done as the Xc of 0.22pf is lowest there and the most rf energy will be coupled back from the plate circuit to the grid circuit. Xc = 159 x 10 to the -3 / FC. Xc = 25,119 ohms @ 28.8mhz and Xc = 195,522 ohms @ 3.7mhz. So very easy to see why tubes wont take off at 3.7mhz. Actually I have never seen them take off on 10 meters and I see some that have a heck of a lot more than 35mv at null. The fact that you can install new tubes and load to full output at 10 meters in preparation for neutralization without risk of damaging your finals says something to you. Some fellow are so nervous they first neutalize on 21mhz before trying to load on 10 meters and then neutralize.

5. I would not worry about any other components causing the null to be at 35mv versus 2.4mv. You could have run for a 1000 years at the 35mv null level without the tubes taking off. I assume that the neutralizing capacitor was stiff to turn? If so, this is by design so it does not float off its value from moving the rig around. If it was very easy to turn it needs to be tightened.

I like the fact that you are in to measuring but just have to realize there are tolerances and what the measurements are telling you. Kenwood has to give us specs and tolerances for

alignments otherwise some folks might think 20% for every parameter is good enough. Another example would be your regulated 9vdc and 3.2vdc RF-1 voltages. KW says to set them to within +/- 0.05vdc. Is it really necessary to spend inordinate amount of time doing this? Of course not, but setting them both there ensures that the rig will operate to design with typical line voltage variations, ambient temperature, operating temperatures, and component tolerances.

Wonder how the factory production workers set these two voltages on the line before the days of DMMs?

Terry K9TW

48661. Re: [TS-520_820_530_830] frequency counter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-04-30 21:09:07 UTC
From: <james27613@...>
Topic: 48649 Message: 48661

Hi,

The Spectronics DFD/K or rebranded Henry DFD/K will also work with the 520 and 820 radios. Early models had nixie tubes, real retro look, then large red led were used.

They turn up on ebay often, just keep a saved search.

There was a similar model for Yaesu radios too.

73 james ke4drn

48662. Re: [TS-520_820_530_830] frequency counter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-01 01:52:15 UTC
From: <n0dks1@...>
Topic: 48649 Message: 48662

Mike W5RKL

Thanks for your help, i did not think it would work.
again thanks.

Dave N0DKS

48663. TS830 Mode Switch

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-01 12:23:55 UTC
From: <kf4ofi@...>
Topic: 48663 Message: 48663

Guys I need some help. I had to make a shade tree repair to my 830. The threaded part of the mode switch was broken and I could not tighten the switch to the case of the radio. My only option, with out finding a replacement switch, was a little epoxy on the front of the switch. It works fine, stays put now. The problem is when I had the switch pulled up to apply the glue, I pulled a little wire loose. This wire is a white wire with a yellow stripe that attaches to connector #4 on the IF board. For the life of me, I cannot find where this wire came from. The radio now has no dirve and will not load up.

Does anyone have an 830 in pieces that they can look at to see where this wire attaches so that I can finish this repair. It may go to the mode switch, it may go somewhere else, but it was laying right beside the mode switch.

Some info or a pic would be greatly appreciated.

Thanks
Curt KF4OFI

48664. Re: TS-820S: no power output but power burst on first PTT action

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-01 12:27:53 UTC
From: <wallydoc@...>
Topic: 48301 Message: 48664

Jose: I had a similar problem and one diode on the mixer/modulator ring diodes on the generator board was blown.
Replaced all four diodes and all is fine.
Wally

48665. Re: My TS-820s and a question or two (a hum, a "gritty IF", and tuning)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-01 12:23:51 UTC
From: <les@...>
Topic: 48627 Message: 48665

Test gear only amounts to a signal gernerator, a digital voltmeter, and a home brewed RF probe, all of which is normally used for refurbing some vintage AM stuff. I don't think my knowledge will up to the task either.

I do think that I may have found the culprit in the situation though.... yes - that great counter assembly! If I disconnect the counter assembly, everthing (except the digital display) works just fine. One of the boards (don't quote me, I think it was in #X54-1160-00) in the assembly has a small hairline crack that I need to address. I don't know if my skill is up to the task. But, I do know that with the assembly disconnected, the feedback problem is gone completely. I have done all the hole-through platin fixes on the board (actually, they looked to be all done already - I did add a small wire through all the holes though). Currently, the counter works flawlessly, which I guess is a little subjective to the new issue I am having - so yes, in reality, I guess it does still have a problem.

Question - can I just live with it like it is? The feedback on xmit does not occur unless I have the AF gain set too high anyway. If I do attempt the repair on the board, I'd like to have a spare board handy before I start - Murphy has been know to visit around here on occassion.

Thank you so much for the time and thought you put into helping me with this.

Les
KG7KME

48666. Re: My TS-820s and a question or two (a hum, a "gritty IF", and tuning)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-01 12:32:29 UTC
From: <w5rkl@...>
Topic: 48627 Message: 48666

You might check with Bob Mansker, KE5FTF (ke5ftf at mail dot com). He may have a spare board.

73
Mike W5RKL

48667. Re: TS-820S: no power output but power burst on first PTT action

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-01 12:50:06 UTC
From: <wallydoc@...>
Topic: 48301 Message: 48667

Jose Sorry, The BM on the 820 is on the IF board, no generator board.

48668. Re: My TS-820s and a question or two (a hum, a "gritty IF", and tuning)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-01 13:54:04 UTC
From: <wagstw46@...>
Topic: 48627 Message: 48668

Les

I and others following this would really appreciate knowing exactly what board you unplugged and if the rig still transmits when you flip to send with this board unplugged and it does so without the 1000hz tone when you advance the AF gain pot.

If this is true would like to try to understand why.

There are two boards

Counter Mixer Unit X54-1150
Counter Unit X54-1160

If it is the 1160 board then there are no outputs other than to the 1150 board. Would be good to know for sure if it is the 1160 board so we can try to figure out what is going on. Perhaps something coming back on the 5vdc regulated line?

Not clear how that results in the tone you are hearing. Perhaps it involves the 5vdc AVR board and feedback to the 14vdc rail? Might be bad decoupling capacitors?

An O-scope on the 5 vdc and 14 vdc inputs to the Counter Assembly and to the AF/AVR board would be very interesting to look at.

You might try unplugging the molex connector to the 5vdc AVR board and see if it stops the tone. The regulator is top side near the black power transformer. Very easy to unplug the molex connector to it. If that stops the Tone I would ask Bob if he has a 5vdc AVR unit and replace it along with your cracked Counter Unit board.

Always a good thing when we can bring closure to these unique problems so we can all learn from it.

Terry K9TW

48669. Re: My TS-820s and a question or two (a hum, a "gritty IF", and tuning)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-01 14:43:02 UTC
From: <wagstw46@...>
Topic: 48627 Message: 48669

Les

Looking at the Counter Unit board I do see some decoupling caps on the 5vdc rail on the board (100 uf and .047uf combo) so if the crack is just right these caps may not be shunted from the rail to the ground plane.

If you have some caps in your junk box could try paralleling up several and hanging on the 5vdc molex connector pin on the Counter Mixer board and on the 14vdc to the board.

You could also go to the AF/AVR board and pull Molex conn AF-1 and release the 14vdc lead at Pin 3 and using dc bench supply or 12 vdc battery (couple of Dollar store lantern batteries) to feed the board and see if tone is gone. This would prove it is coming in on the 14vdc line.

Terry K9TW

48670. DDS VFO and PC in one...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-01 21:53:04 UTC
From: <cocobean64@...>
Topic: 48670 Message: 48670

The second version is finished...a video is on kb8bab.com.

Uses a 7" screen.
Has 8 freq mem buttons per band...
Power / Swr meter by using a Wavenode coupler.

Mini ITX built in. Hook up a screen and keyboard and ready to go.

73

Bart

48671. Re: frequency counter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-01 12:49:56 UTC
From: <brett_forehand@...>
Topic: 48649 Message: 48671

If you are looking for something new that is literally plug and play, check out the Electronics Specialty Products' DD-103. It has a blue backlit LCD display, and a cable that plugs into the external VFO port. The cable is an additional 20 bucks. You do have to do a simple and quick fine-tune once you install it, but that's it. Turns on and off with the rig's power. I bought one several months ago, and it works very well.

73,
Brett KF5WXP

48672. Re: My TS-820s and a question or two (a hum, a "gritty IF", and tuning)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-02 12:18:18 UTC
From: <les@...>
Topic: 48627 Message: 48672

I unplugged the topside connector on the entire assembly for the counter unit. From the get go with the digital display, I was under the impression that it is "not needed" for proper radio operations - it just displays the frequency. Knowing that (or beleiving that), as that is the only unit I am aware of that has ever received any kind of service, I unplugged it to see what would happen. When the feedback like symptom went away with this unplugged, I looked a little further. That is when I noted the very small hairline crack on the board I stated in the previous message.

Interesting though, prior to the feedback like symptom, the display had the "9" problem. Since the feedback situation has arisen, the digital display has been flawless. If I had to pick which problem to have and put up with, I pick the current issue of dealing with the feedback like issue.

The molex connector you refer to - I'll disconnect that this evening and see what happens. Will the radio funtion adequately with that disconnected?

I'll get another youtube vid together as soon as I can. It probably will not be until tomorrow evening to show the cracked board. Thinking about it, I can make a vid tonight with the counter assembly disconnected on the top side - that much will be simple.

I hope you realize how much I appreciate your assistance with this. I really get the impression that you are truly concerned about this radio.

THANKS!!

Les
KG7KME

48673. Re: My TS-820s and a question or two (a hum, a "gritty IF", and tuning)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-02 15:44:40 UTC
From: <wagstw46@...>
Topic: 48627 Message: 48673

Les:

I want to help you and other owners but I also have a selfish motive.

I along with all other interested members can always learn from these kind of unique problems and it helps exercise what brain cells I have left by forcing me to study the schematics and hopefully will help stave off old timers disease!

I have couple of family functions this weekend so wont be available for much forum work.

Yes if you had to choose one problem to live with I would pass on the "9s".

Terry K9TW

48674. Re: My TS-820s and a question or two (a hum, a "gritty IF", and tuning)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-02 15:26:14 UTC
From: <les@...>
Topic: 48627 Message: 48674

Check that, the last message. This morning, right before I left for work, I took the top cover off and pulled the accessible connector to the counter unit. The feedback (I'm going to refer to it from here on out as "feedback" lacking any knowledge or experience to call it anything different) persisted with this top connector unplugged. I swear - the other day when I tested, it went away. I do recall though, the top AND bottom covers were off that day, so most likely, I had the bottom connector removed. Perhaps something else, un-noticed caused the feedback to disappear. Maybe both connectors need to be removed. Whatever it was, there was no feedback the other day - I could not make the rig exhibit any problem then....

I will double check this this evening and post results at that time. I will reconnect everything and make the feedback happen, I will disconnect what I beleive is causing the issue and verify.

Les
KG7KME

48675. Re: TS-520 MOSFET

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-02 18:54:36 UTC
From: <chastizer4@...>
Topic: 48433 Message: 48675

Thanks to Terry for the suggestions. In further study of the schematics I was able to determine that the signal cable which links the WWV switch to the RF board via X Verter was missing. We finally have receive which seems more sensitive than my FT-757! On to transmit. Following the set up in the manual I get 60mA on plate idling current as expected. Beyond this step there is no deflection on the ALC. HV shows 900 V. SG switch is up. I swapped out the 12BY7A with no change. I am hoping you folks might offer some suggestions along with a bit of reasoning behind them. I really want to gain more understanding of this rather than just swap parts. Thanks to all for this and all the other great info here! Rig is TS-520
Charlie - AC6ZX

48676. Re: My TS-820s and a question or two (a hum, a "gritty IF", and tuning)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-02 20:21:03 UTC
From: <les@...>
Topic: 48627 Message: 48676

Take your time on any and all replies - you have been more than helpful. I really appreciate the insight and I wish I had your skills.

I will do my best to help you out - I'll keep the problems coming ;)

Les
KG7KME

48677. Re: [TS-520_820_530_830] Re: My TS-820s and a question or two (a hum, a "gritty IF", and tuning)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-02 23:18:02 UTC
From: Rob Stewart
Topic: 48627 Message: 48677

Did I mention this forum rocks? Between Terry and the intelligent QA going on here there is more high level and astutue questions and well intended infoi interchange than in many other forums. Ham radio is SO alive and well!

John WA3JRS
On Friday, May 2, 2014 6:30 PM, "les@...e.com" <les@...> wrote:

Take your time on any and all replies - you have been more than helpful. I really appreciate the insight and I wish I had your skills.

I will do my best to help you out - I'll keep the problems coming ;)

Les
KG7KME

48678. Re: My TS-820s and a question or two (a hum, a "gritty IF", and tuning)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-02 23:19:57 UTC
From: <les@...>
Topic: 48627 Message: 48678

You have been most helpful. I feel bad - it seems like every time I get on here to give you some info, I have to change it.

I took the top and bottom =covers off and for the life of me, I could not reproduce the lack of feedback - disconnected the top counter connector = feedback. Disconnected the bottom counter connector = feedback. Disconnected both = feedback. I know earlier this week, I had an instance where I had no feedback.

Then I noticed this relay -- (this is a link to the pic hosted on my website on my server)

http://linuxweb.homelinux.com/relay.jpg http://linuxweb.homelinux.com/relay.jpg

I keyed the mic (heater off), AF Gain high enough to get "feedback". I gave this relay a knock with a pencil while still keying the mic = feedback changed!! I turned off the rig, took out the relay, popped off the clear plastic cover, gave it a squirt of cleaner. Now, no feedback unless I turn up the gain all the way to 9+.

Well, wait a minute... I just check. The feedback has returned back at the level as before - around 4 on the AF gain. I am pretty sure the culprit is this relay though. Is this relay the same as;

http://www.hybridrestore.com/parts/ http://www.hybridrestore.com/parts/ (scroll down to the relay - it's about half way down the page)

If you think this is my problem, the part will be ordered as soon as I hear from you. BTW - read the entire bit of info about this relay - this guys test is to tap on the relay while using the radio - yep, that's what I did.

THANKS!!!

Les
KG7KME

48679. 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-03 03:02:11 UTC
From: Wes Will
Topic: 48679 Message: 48679

Leonard has been patiently suffering with my ham-handed assistance to get some of his original problems straightened up. We've been working on it, running through the operator's manual, and the latest and last thing was a simple coil pack alignment, which he said went smoothly.

Then he put in a new driver and finals, neutralized the finals which task he described as quite smooth and easy. No problems at all with the neutralization....

And then he went on to tune up with a dummy load, and THAT'S when all heck broke loose, to use the vernacular.

The chart below is from his message to me, when I asked him for readings on the plate currents per band along with the power output readings. The HV readings were all about the same, nominal, about 800V or so.

> -------- Original Message --------
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> 160 Meters - Ip=260ma, Pwr=4 watts *See Notation Below*
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> 20 Meters - Ip=260ma, Pwr= 35 watts
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> 10 Meters - Ip=255ma, Pwr= 130watts
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> to climb. Going back and forth between plate & load it seems as though the load
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> The same thing on 80, not nearly as bad.

One assumption I'm making (should have asked him, just now got the notion, yes, I can be slow sometimes) the settings he is using for the tune-up and for the measurements.

I'm assuming the tune position for balancing the tank and CW for the power measurements. Also how is he measuring the power, with the S meter or an outboard meter on the dummy load? I should have asked for

certain, and will shortly do so. Now, this has truly got me up a stump. I have this feeling that the answer is right in my face but I can't see it. Dagnabbit. I hate being stupid.

Why is the HIGH FREQ way over normal, at nominal drive levels and plate voltages, and the "easy" bands (40, 80) so low?

15 is about right for output, but the rest of this has me baffled.

Backing the equations out, you get a 600V 2K ohm load circuit at 10M but the 160 M circuit comes out to about 15 V and only 60 ohms. That is seriously UN-good. There is a lot of power going somewhere instead of out the antenna, and it can't be good, wherever it is going.

I'm wondering how capacitance and coil Q enough to get that kind of output on 10 meters got into this circuit? What sort of shorted coil along with some kind of parasitic capacitance would raise the circuit quality factor enough to get 130 W out of there? The same fault would account for progressively lower power on the other bands, so it's all one problem. THAT much I can get.

I just know from reading this forum (thanks again, Terry, for explaining that design compromise for ten meters) that it's hard enough to get 80 watts output with the low Q of the coil that had to be used in the 10 meter circuit, to balance/resonate with the tube capacitance and the little bit of parasitics in the rest of the circuit components, and STILL be able to use the same tuning capacitor to cover the complete band edge to edge-plus. (The original engineer must have been some kind of high-forehead bulging cranium. Designing this kind of complexity and inter-action component to component is SO far beyond me.)

Bad connection on the tuning capacitor frame? Shorted tuning coil somewhere in the finals? I am somewhat baffled, but I'm still hunting. (Not being in the same state as the busted box ain't helping, either. Especially not at MY level of "expertise." I almost laugh using that term, even in quotes.)

What I DO know is that something is SERIOUSLY out of tune somewhere, and I'm sort of at a loss where to even start. Low output on the higher frequencies I can deal with. Low output on low frequencies, HIGH output on high freqs, just makes me scratch my head and wonder "HOW the heck?"

Leonard, being the patient sort, is willing to wait until I beat my head into a pulp and get a brain-storm and figure this out. I however am not so sanguine about me getting that brain-storm before the pulp all drips out onto the floor. Plus, he might actually want his rig back and working one day....

Just a clue where to start will be much appreciated. I'm favouring something on the coil pack, or the main tuning capacitor, for some reason. My brain is kind of nagging me in that direction, which likely

means I'm completely on the wrong track.

Address any replies to either Leonard / WV3P, or to me, and we will continue to work this out together. I personally don't want to let this go, because quite frankly, it's kind of an interesting problem to me. (Whatever it turns out to be, we'll be sure to post it so someone else can start further along than "square one" like I am.)

If it's one of those "forehead slap" "Duh!" kind of answers in the end, that would be even better, since that kind of embarrassment means I won't likely ever forget it. (And the fix is easy for Leonard.)

Ideas? Please and thanks in advance?

--
Wes Will
N9DKY

48680. Re: [TS-520_820_530_830] 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-03 13:17:48 UTC
From: Ron
Topic: 48679 Message: 48680

One question has the band switch contacts been cleaned. Just a thought ??

Ron KK4PWF

On May 2, 2014, at 10:02 PM, Wes Will <wwill@...> wrote:

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48681. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-03 15:46:37 UTC
From: <chastizer4@...>
Topic: 48679 Message: 48681

Forgive me if this is a foolish suggestion, but is the dummy load known to be good? Charlie - AC6ZX

48682. Re: [TS-520_820_530_830] Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-03 18:18:51 UTC
From: Ron
Topic: 48679 Message: 48682

Sounds like a bad load or band switch call me crazy just my thinking

Ron KK4PWF

On May 3, 2014, at 10:46 AM, <chastizer4@...> wrote:

>
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48683. Re: [TS-520_820_530_830] 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-03 23:05:49 UTC
From: Mike McHugh
Topic: 48679 Message: 48683

Did you take the RF board out of the radio????????????????..... If so, did you ,perhaps, get the bandswitch shaft 180 degrees out of sync with the switch in the Final section????????? I did that and it gave me the whacked out readings that you got as to RF output....
Just a thought but it is worth the question....

Mike (KD2DYY)

Member

On Saturday, May 3, 2014 9:17 AM, Ron <bozo231@yahoo.com> wrote:

One question has the band switch contacts been cleaned. Just a thought ??

Ron KK4PWF

On May 2, 2014, at 10:02 PM, Wes Will <wwill@...> wrote:

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48684. Re: [TS-520_820_530_830] Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-03 23:08:33 UTC
From: <leonardmiller579@...>
Topic: 48679 Message: 48684

Ron, someone asked if I cleaned the band switch. The answer to that is yes, I used DeOxit, but maybe I try it again. Can't hurt! I appreciate everyone's reply. When I first got the radio it only half worked on receive. I completely re-capped the radio, and removed the VFO for a good cleaning. I've also repaired the broken trimmer TC1 on the VFO which now works great. Receive appears to be working as it should. The radio has been re-tubed with almost new tubes that were checked on my old Hickok tester just to be sure, and I've performed the alignment per the manual. After putting in the new tubes I used my Scope to neutralize the tubes. That actually went very well. At that point I thought I was done until I checked the output. Did you have a chance to look at the chart I sent to Wes? I documented the Ip & Wattage on each band. 10, 15, & 20 appear to be fine. It's 160, 80, & 40 that have the problems, although 160 & 80 are the worst.

Thank you for your input.

Leonard/wv3p

48685. Re: [TS-520_820_530_830] 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-04 15:04:19 UTC
From: <leonardmiller579@...>
Topic: 48679 Message: 48685

No I didn't have the shaft out of the radio, but of course that doesn't mean the previous owner didn't. I'll take a look at it. I'm also going to clean the contacts again with DeOxit.

Thank you for your input!

Leonard/wv3p

48686. Kenwood Hybrid Net Update (May 4, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-04 21:06:59 UTC
From: Mark Gilger
Topic: 48686 Message: 48686

Dayton Hamvention Kenwood Legacy Forum:
This year will be the first year for the Kenwood
Hybrid Legacy Forum to be held at the Dayton
Hamvention. The forum will be Sunday May 18th.,
room #2, 10:30 □ 11:30. The following preliminary agenda has been proposed:

```
* History of the legacy products.
* Resource help with parts, documentation, etc..
* SDR integration into the legacy line.
* Rewinding a TS-830 L41 coil.
* Tips & Hints.
* Questions and Answer Technical Session
We hope to see you there.
```

```
Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net
```

```
Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHo
mePage.htm
```

The net recently celebrated it□s 2nd year in
existence on November 1st, 2013. The yearly
check-in totals are posted at the bottom of this
message. It showed we had a 10% increase in our
Saturday check-ins and an 8% on Sunday as compared to the 2012 check-ins.

```
Jimmy, WB2KNR ran the Saturday net. There were
10stations checking in under good band
conditions. We had the following number of radios checking in.

1 running TS-520(x)
0 running TS-530(x)
1 running TS-820(x)
2 running TS-830S

Jimmy was running his TS-520.

The Sunday net was run by me, WB0IQK. There were
9 stations checking in under poor band
conditions. There was 1 new check in, KD0VNQ. We
had the following number of radios checking in.

3 running TS-520(x)
1 running TS-530(x)
2 running TS-820(x)
```

1 running TS-830S

I was running my TS-820s twins. The TS-820s & R-820.

We have been having several people checking in
regularly with their TS-430, TS-440, and
TS-940□s, which of course is not a hybrid,
although over 30+ years old. Everyone is welcome
as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a
net control station, please send me an email.
Currently it's just myself, WB2KNR and WB0SGA. I
would like to get several more. If we do, we can
alternate so everyone might be on a 3-4 week
rotation. It's a lot of fun and a good way to
make sure you station is optimized.

For anyone that has not heard, we have a new web
site that WB4HFN is hosting. He currently has a
very nice site for Drake, Collins and Heathkit
and now Kenwood Hybrids. Good quality manuals
plus sale flyers and brochures will be found
here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 □ Oct. 2012 Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins

November 2013, Saturday□s net total = 94, Sunday□s total = 85
December 2013, Saturday□s net total = 87, Sunday□s total = 103
January 2014, Saturday□s net total = 71, Sunday□s total = 82
February 2014, Saturday□s net total = 80, Sunday□s total = 85
March 2014, Saturday□s net total = 82, Sunday□s total = 73
April 2014, Saturday□s net total = 64, Sunday□s total =43
May 2014, Saturday□s net total = 10, Sunday□s total = 9 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
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Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

48687. Re: My TS-820s and a question or two (a hum, a "gritty IF", and tuning)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-04 23:21:06 UTC
From: <wagstw46@...>
Topic: 48627 Message: 48687

Sounds like not biasing off the receiver front end devices in TX mode. Could have you take some measurements at RF-2 on RF board and try temporarily grounding RLK but best to just clean the relay contacts or replace the relay.

Clean it by wetting strips of copy paper with de-oxit and pulling the strips thru all the contacts. Will see black streaks on the paper. Can also swap this relay with the Ant TR relay as they are the same.

Good idea to buy a spare relay while they are still available.

Terry
K9TW

48688. Hello and trouble shooting question on a 520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-04 23:17:17 UTC
From: <rhumstruck@...>
Topic: 48688 Message: 48688

Hello OM(en),

I'm Jeff KD9AGN Tech. I got my ticket just this Jan. Working on getting my General next month. When I passed my Tech exam I treated myself to a Kenwood TS520. I know these are reliable old war horses with a little TLC.
This rig has been receiving very well considering I only have a 10 meter wire dipole in the garage rafters. Jan was too cold to be out messing with antennas!!
Kenwoods always had superior front ends. But I have a problem with transmitting SSB. I can tune up on all bands CW and get a signal out of the radio into a dummy load. Obviously I only have SSB on 10 meters So I then switched to USB and keyed the mike. Nothing. Now what? I have a DVOM and a few hand tools. Then the light bulb came on!! Yes "The Light Bulb Dummy"!! A CRUMMY DUMMY of yesteryear. Sure enough, I send a nice (rather weak visually, probably worn out tubes) CW signal on all bands. So then I hooked up a rock mite qrp rig to the antenna, tuned my kenwood to 7030 and keyed up. Beautiful signal!
I really really suck at CW BTW!! Back to 10 meters with this discovery and when I key the mic and try to send my call and test Nada, nothing zero zilch.
Is this a common problem with these old tanks? If so what should I be looking at?
Jeff KD9AGN

48689. Re: [TS-520_820_530_830] Hello and trouble shooting question on a 520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-04 23:41:47 UTC
From: Mike W5RKL
Topic: 48688 Message: 48689

Jeff,

Do you have the TS-520 operator's manual? Also did you perform the transmitter sideband bias pot adjustment (60ma), the normal transmitter tune up procedures and the mic gain setting for normal sideband (USB or LSB) operation as discussed in the 520 operator's manual?

73
Mike W5RKL

On 5/4/2014 6:17 PM, rhumstruck@... wrote:
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> I really really suck at CW BTW!! Back to 10 meters with this discovery
> and when I key the mic and try to send my call and test Nada, nothing
> zero zilch.
> Is this a common problem with these old tanks? If so what should I be
> looking at?
> Jeff KD9AGN
>

48690. Re: [TS-520_820_530_830] Hello and trouble shooting question on a 520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-04 23:42:40 UTC
From: Mike W5RKL
Topic: 48688 Message: 48690

I forgot to ask what type of microphone are you using?

73
Mike W5RKL

On 5/4/2014 6:41 PM, Mike W5RKL wrote:
>
> Jeff,
>
> Do you have the TS-520 operator's manual? Also did you perform the
> transmitter sideband bias pot adjustment (60ma), the normal
> transmitter tune up procedures and the mic gain setting for normal
> sideband (USB or LSB) operation as discussed in the 520 operator's
> manual?
>
> 73
> Mike W5RKL
>
> On 5/4/2014 6:17 PM, rhumstruck@... wrote:
>>
>> Hello OM(en),
>> I'm Jeff KD9AGN Tech. I got my ticket just this Jan. Working on
>> getting my General next month. When I passed my Tech exam I treated
>> myself to a Kenwood TS520. I know these are reliable old war horses
>> with a little TLC.
>> This rig has been receiving very well considering I only have a 10
>> meter wire dipole in the garage rafters. Jan was too cold to be out
>> messing with antennas!!
>> Kenwoods always had superior front ends. But I have a problem with
>> transmitting SSB. I can tune up on all bands CW and get a signal out
>> of the radio into a dummy load. Obviously I only have SSB on 10
>> meters So I then switched to USB and keyed the mike. Nothing. Now what?
>> I have a DVOM and a few hand tools. Then the light bulb came on!! Yes
>> "The Light Bulb Dummy"!! A CRUMMY DUMMY of yesteryear. Sure enough, I
>> send a nice (rather weak visually, probably worn out tubes) CW signal
>> on all bands. So then I hooked up a rock mite qrp rig to the antenna,
>> tuned my kenwood to 7030 and keyed up. Beautiful signal!
>> I really really suck at CW BTW!! Back to 10 meters with this
>> discovery and when I key the mic and try to send my call and test
>> Nada, nothing zero zilch.
>> Is this a common problem with these old tanks? If so what should I be
>> looking at?
>> Jeff KD9AGN
>
>

48691. Re: [TS-520_820_530_830] 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-04 23:50:17 UTC
From: Mike McHugh
Topic: 48679 Message: 48691

Ya, Please check that..... When I screwed up that reinstall of the shaft(After a new coupler was installed) I had exactly the same situation...ALL my RF outputs were whacked out..... I installed the forward shaft correctly. (flip 180 degrees) and all was as it should be..... Simple fix IF that is the prob..... VERY good luck to you. These old Kenwoods are WORTH repairing..... I love my 830 AND the older 520s... I have 590 now but still turn to the 830 first for prowling the bands..... Love it!

73's Mike (KD2DYY)

On Sunday, May 4, 2014 1:27 PM, "leonardmiller579@yahoo.com" <leonardmiller579@...> wrote:

No I didn't have the shaft out of the radio, but of course that doesn't mean the previous owner didn't. I'll take a look at it. I'm also going to clean the contacts again with DeOxit.

Thank you for your input!

Leonard/wv3p

48692. Re: Hello and trouble shooting question on a 520(I forgot to sign)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-05 01:13:03 UTC
From: <rhumstruck@...>
Topic: 48688 Message: 48692

Yes, yes yes!!
A chinese aftermarket mic that I bought from a ham on ebay. he emailed me to be positive of my rig, I think it is ok. Definately not optimal, but that is money better spent on getting the ol girl walking and talking again!
Jeff KD9AGN

48693. Re: My TS-820s and a question or two (a hum, a "gritty IF", and tuning)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-05 01:50:26 UTC
From: <les@...>
Topic: 48627 Message: 48693

I cleaned the contacts on the relay this morning. So far, it seems to be running much, MUCH better. I won't say "problem solved", but I can certainly turn up the gain now, key the mic, and no "feedback" is heard.

I did order the relay. This one will probably work forever now, as I have a spare handy. But, that's good insurance.

48694. Re: My TS-820s and a question or two (a hum, a "gritty IF", and tuning)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-05 01:51:06 UTC
From: <les@...>
Topic: 48627 Message: 48694

and sign that....

Les
KG7KME

48695. Re: Hello and trouble shooting question on a 520(I forgot to sign)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-05 02:32:50 UTC
From: <w5rkl@...>
Topic: 48688 Message: 48695

Jeff,

If the microphone you purchased on eBay is an "Electret" then those microphones typically require a small DC voltage to be applied to the microphone for them to work. Also, most Electret microphones have a low impedance, approximately 2K ohms. The TS-520 has a high microphone impedance, 50K ohms. A 2K ohm impedance microphone can result in an impedance mismatch which can affect the transmit audio. Also, of the microphone is in fact an Electret that requires a DC voltage and that DC voltage is not applied to the microphone then there will be zero audio in USB or LSB transmit regardless of the MIC gain setting because there will be "no audio output" from the microphone.

Can you provide the eBay ad ID number? All eBay ads have an ID number, found to the right of the "Items Specific" section and just below the "Print | Report Item" links. If you could see and read about the microphone you purchased it would make it easier for us to help you.

I recommend you find a high impedance microphone such as a Kenwood MC-50 that's designed to work with the TS-520. A non-amplified D-104 will also work. The MC-50 is a dual impedance microphone. The impedance is determined by the cable that's plugged into the rear of the microphone, see the MC-50 manual for further details. If you use a non-amplifier D-104, the wiring diagram is located on the plate on the bottom of the microphone stand. Remove the 3 screws holding the plate to the bottom of the stand and turn the plate over. The microphone ground and the PTT ground must be separate which requires 4 wires in the microphone cable. See the 520 operator's manual for microphone plug wiring details.

73
Mike W5RKL

48696. Re: [TS-520_820_530_830] Re: Hello and trouble shooting question on a 520(I forgot to sign)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-05 08:10:19 UTC
From: Gordon JC Pearce
Topic: 48688 Message: 48696

On Sun, May 04, 2014 at 06:13:03PM -0700, rhumstruck@... wrote:
>
> Yes, yes yes!!
> A chinese aftermarket mic that I bought from a ham on ebay. he emailed me to be positive of my rig, I think it is ok. Definately not optimal, but that is money better spent on getting the ol girl walking and talking again!
> Jeff KD9AGN

Have you tried transmitting SSB into the dummy load? Do you see any deflection on the meter, set to RF?

Check your MIC GAIN control, or in fact just turn it all the way up for now. You can set it properly once you work out what's going on.

Don't worry about the output valves. They don't really fail unless they have beeen massively abused. If they haven't been utterly roasted until the cathode is stripped bare, then even a completely worn out and tired set of valves will still work (probably get you about 75W out, too).

--
Gordonjcp MM0YEQ

48697. Re: [TS-520_820_530_830] Re: Hello and trouble shooting question on a 520(I forgot to sign)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-05 11:06:49 UTC
From: Mike W5RKL
Topic: 48688 Message: 48697

It's quite possible the microphone Jeff is attempting to use could simply not be producing any audio output to the 520's microphone preamp/speech amplifier. Therefore, I think Jeff needs to provide the eBay ad ID number so we can see what microphone he is attempting to use.

73
Mike W5RKL

On 5/5/2014 3:10 AM, Gordon JC Pearce wrote:
>
> On Sun, May 04, 2014 at 06:13:03PM -0700, rhumstruck@... wrote:
> >
> > Yes, yes yes!!
> > A chinese aftermarket mic that I bought from a ham on ebay. he
> emailed me to be positive of my rig, I think it is ok. Definately not
> optimal, but that is money better spent on getting the ol girl walking
> and talking again!
> > Jeff KD9AGN
>
> Have you tried transmitting SSB into the dummy load? Do you see any
> deflection on the meter, set to RF?
>
> Check your MIC GAIN control, or in fact just turn it all the way up
> for now. You can set it properly once you work out what's going on.
>
> Don't worry about the output valves. They don't really fail unless
> they have beeen massively abused. If they haven't been utterly roasted
> until the cathode is stripped bare, then even a completely worn out
> and tired set of valves will still work (probably get you about 75W
> out, too).
>
> --
> Gordonjcp MM0YEQ
>
>

48698. 830 - no output, no metering

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-05 12:21:43 UTC
From: <crgrbrts@...>
Topic: 48698 Message: 48698

I am working on a TS-830S that receives fine but does not transmit -- no drive and, obviously, no output.

Here's a clue: the meter -- including the S-meter - does not function.

Any ideas?

73,

Craig
W3CRR

48699. Re: [TS-520_820_530_830] 830 - no output, no metering

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-05 14:08:38 UTC
From: Ron
Topic: 48698 Message: 48699

Has anyone checked the 3.? Ohm resistor on final board?

Ron KK4PWF

On May 5, 2014, at 7:21 AM, <crgrbrts@...> wrote:

>
>
> I am working on a TS-830S that receives fine but does not transmit -- no drive and, obviously, no output.
>
> Here's a clue: the meter -- including the S-meter - does not function.
>
> Any ideas?
>
> 73,
>
> Craig
> W3CRR
>
>

48700. Re: [TS-520_820_530_830] 830 - no output, no metering

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-05 14:18:31 UTC
From: Ron
Topic: 48698 Message: 48700

Also has it been checked with outside meter

Ron KK4PWF

On May 5, 2014, at 7:21 AM, <crgrbrts@...> wrote:

>
>
> I am working on a TS-830S that receives fine but does not transmit -- no drive and, obviously, no output.
>
> Here's a clue: the meter -- including the S-meter - does not function.
>
> Any ideas?
>
> 73,
>
> Craig
> W3CRR
>
>

48701. Re: [TS-520_820_530_830] 830 - no output, no metering

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-05 14:35:24 UTC
From: Craig Roberts
Topic: 48698 Message: 48701

I'm about to dive into the final amp board again to double check components before I start stage by stage meaurements.

The zero output is according to an external wattmeter.

73,

Craig
W3CRR

48702. Re: [TS-520_820_530_830] Hello and trouble shooting question on a 520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-05 15:38:54 UTC
From: John Davidson
Topic: 48688 Message: 48702

Cpuld be as simple as a bad mic. can you borrow another 4 pin kenwood mic to substitute ?
On Sunday, May 4, 2014 7:42 PM, Mike W5RKL <w5rkl@...> wrote:

I forgot to ask what type of microphone are you using?

73
Mike W5RKL

On 5/4/2014 6:41 PM, Mike W5RKL wrote:

>Jeff,
>
>Do you have the TS-520 operator's manual? Also did you
perform the transmitter sideband bias pot adjustment
(60ma), the normal transmitter tune up procedures and
the mic gain setting for normal sideband (USB or LSB)
operation as discussed in the 520 operator's manual?
>
>73
>Mike W5RKL
>
>
>On 5/4/2014 6:17 PM, rhumstruck@... wrote:
>
>
>>
>>Hello OM(en),
>>I'm Jeff KD9AGN Tech. I got my ticket just this Jan. Working on getting my General next month. When I passed my Tech exam I treated myself to a Kenwood TS520. I know these are reliable old war horses with a little TLC.
>>This rig has been receiving very well considering I only have a 10 meter wire dipole in the garage rafters. Jan was too cold to be out messing with antennas!!
>>Kenwoods always had superior front ends. But I have a problem with transmitting SSB. I can tune up on all bands CW and get a signal out of the radio into a dummy load. Obviously I only have SSB on 10 meters So I then switched to USB and keyed the mike. Nothing. Now what?
>>I have a DVOM and a few hand tools. Then the light bulb came on!! Yes "The Light Bulb Dummy"!! A CRUMMY DUMMY of yesteryear. Sure enough, I send a nice (rather weak visually, probably worn out tubes) CW signal on all bands. So then I hooked up a rock mite qrp rig to the antenna, tuned my kenwood to 7030 and keyed up. Beautiful signal!
>>I really really suck at CW BTW!! Back to 10 meters with this discovery and when I key the mic and try to send my call and test Nada, nothing zero zilch.
>>Is this a common problem with these old tanks? If so what should I be looking at?
>>Jeff KD9AGN
>

48703. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-05 15:51:17 UTC
From: <wagstw46@...>
Topic: 48679 Message: 48703

Wes:

1. In this state I would suggest keeping the key down testing to short intervals to rest the finals and the driver tube. 2. Max plate current for a TS520S is 200ma so I would back the Car Level down a little below this 250ma to 260ma Ip level while doing these key down adjustments of the Plate Load and Plate Tune capacitors.

3. Where does the Plate current dip occur at on any and all bands (including those that you think are close to normal) with the VFO at approx mid range (best to test at 200 to 250 on the VFO so peak drive occurs at approx 1200). If the dip is occurring at odd positions of the tank cap pointer then usually only two problems A. Bad fixed padder caps or wrong ones being switched in and B. Wrong tank coil tap is being selected.

Do the Ip dips occur very close to the white band specific markings on the arc above the Red pointer?

4. Lastly make sure the adjustment nut on back of the Plate Load cap hasnt backed off and allowing the rotor to move back and forth axially. This can cause the plates to short.

Load does not have to be "going" anywhere in the sense it is leaving the rig. Of course it is being dissipated. The final tubes supply RF Line current to the tank circuit. If tank is off resonance then there will be high internal RF Circ current in the tank and the ohmic series R in the tank is dissipating that current.

Terry K9TW

48704. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-05 17:28:05 UTC
From: <wagstw46@...>
Topic: 48679 Message: 48704

Wes/Les:

One other possibility that I forgot to mention and that is the couplers for the Plate Load and Plate Tune caps could have loosened up on their respective shafts and are slipping. Not likely but easy thing to check and eliminate.

Terry K9TW

48705. TS-820 with no output / no high voltage

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-05 17:17:44 UTC
From: <sm5utt@...>
Topic: 48705 Message: 48705

Hello group,

I just (re)joined the group after I have broken my beloved and trusted TS-820. Yesterday I tried to make a PSK31 QSO and the rig tuned up OK. But when I tried to transmit with my new computer I didn't pay enough attention to the audio level resulting in massive ALC reading on my rig. I of course put the radio in receive mode as quickly as I could (about 1 sec on TX), but damage seems to have struck anyways. After that escapade there is no power output indicated on my external SWR meter in any mode including Tune, and there is no IP reading when I flip the T/R switch. There is also no high voltage reading, which I realize is needed for the tubes to work. :-)

I haven't checked anything inside the rig yet, I don't want to make bad worse. Where do I begin my search?

Thanks for any advice!

73 de SM5UTT / Marcus

48706. Re: [TS-520_820_530_830] 830 - no output, no metering

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-05 18:55:19 UTC
From: Ron
Topic: 48698 Message: 48706

Do u have known good final tubes an drive tubes ?

Ron KK4PWF

On May 5, 2014, at 9:35 AM, Craig Roberts <crgrbrts@...> wrote:

> I'm about to dive into the final amp board again to double check
> components before I start stage by stage meaurements.
>
> The zero output is according to an external wattmeter.
>
> 73,
>
> Craig
> W3CRR
>
>
> ------------------------------------
>
> Yahoo Groups Links
>
>
>

48707. Re: [TS-520_820_530_830] 830 - no output, no metering

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-05 19:05:55 UTC
From: Craig Roberts
Topic: 48698 Message: 48707

Thanks, Ron,

Yes, I do have known good finals and driver tube. I'm going to have to take some measurements of voltage and see where it disappears. I'm just trying to isolate the area, given that the metering, including S-meter, has failed with the drive and power output (with the exception of the HV metering, which is normal -- 900 V with no load).

73,

Craig
W3CRR

48708. Re: [TS-520_820_530_830] 830 - no output, no metering

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-05 19:08:02 UTC
From: Ron
Topic: 48698 Message: 48708

Sounds like a dive to resistors is in order

Ron KK4PWF

On May 5, 2014, at 2:05 PM, Craig Roberts <crgrbrts@...> wrote:

> Thanks, Ron,
>
> Yes, I do have known good finals and driver tube. I'm going to have to
> take some measurements of voltage and see where it disappears. I'm just
> trying to isolate the area, given that the metering, including S-meter,
> has failed with the drive and power output (with the exception of the HV
> metering, which is normal -- 900 V with no load).
>
> 73,
>
> Craig
> W3CRR
>
>
>
>
> ------------------------------------
>
> Yahoo Groups Links
>
>
>

48709. Re: [TS-520_820_530_830] 830 - no output, no metering

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-05 19:08:32 UTC
From: Ron
Topic: 48698 Message: 48709

Any alc ?

Ron KK4PWF

On May 5, 2014, at 2:05 PM, Craig Roberts <crgrbrts@...> wrote:

> Thanks, Ron,
>
> Yes, I do have known good finals and driver tube. I'm going to have to
> take some measurements of voltage and see where it disappears. I'm just
> trying to isolate the area, given that the metering, including S-meter,
> has failed with the drive and power output (with the exception of the HV
> metering, which is normal -- 900 V with no load).
>
> 73,
>
> Craig
> W3CRR
>
>
>
>
> ------------------------------------
>
> Yahoo Groups Links
>
>
>

48710. Re: [TS-520_820_530_830] 830 - no output, no metering

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-05 19:16:14 UTC
From: Craig Roberts
Topic: 48698 Message: 48710

On 5/5/2014 3:08 PM, Ron wrote:
>
> Any alc ?
>
> On 5/5/2014 3:15 PM. Craig writes:
>

Nope!

73,

Craig
W3CRR

48711. Re: Hello and trouble shooting question on a 520(I forgot to sign)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-05 19:15:28 UTC
From: <rhumstruck@...>
Topic: 48688 Message: 48711

Thanks gentlemen, I getting somewhere. This is the microphone I'm using, http://www.ebay.com/itm/NOT- FOR-CB-Superstar-Microphone- DM-507-4-pin-wired-for-KENWOOD-TS-520-TS-820s-/ 221422819309 http://www.ebay.com/itm/NOT-FOR-CB-Superstar-Microphone-DM-507-4-pin-wired-for-KENWOOD-TS-520-TS-820s-/221422819309
Gordon, I tried again this morning following your suggestion. Nothing at first, then I thought why not? I fiddled with the Bias pot while transmitting. It lit the light bulb weakly but flickered up and down with my voice!! I found that if I'm jiggling the bias pot I get output.
Yes I know I need a better microphone. If time was money I would be rich, however That is not the case.
Eventually I'll get a better mic, an antenna analizer, swr/power meter. I can live without an amp.
jeff KD9AGN

48712. Re: 830 - no output, no metering

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-05 20:29:48 UTC
From: <rrmvargo@...>
Topic: 48698 Message: 48712

Craig,
It is possible the radio has more than one problem. Do the heater filaments light in all tubes? I worked on an 830 several years ago where the solder seemed to have evaporated (sublimated) from the socket's heater pins. After I resoldered the tube socket, heater voltage was restored & the unit had full output.

72 Bob W8RMV

48713. Re: Hello and trouble shooting question on a 520(I forgot to sign)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-05 20:34:15 UTC
From: <rrmvargo@...>
Topic: 48688 Message: 48713

I have the Superstar (How could I not with a name like that). And the one I have actually worked very well on my 830. Since, I have picked up a MC50, more befitting of my 830. - 73 Bob W8RMV

48714. Re: [TS-520_820_530_830] 830 - no output, no metering

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-05 21:40:18 UTC
From: <wagstw46@...>
Topic: 48698 Message: 48714

Well as you know measurements will find it in matter of minutes, but until you get to that stage I wonder if Conn 10 on Audio board is involved? Also, does it have the original RL-1 relay on the audio board?

Terry K9TW

48715. Re: [TS-520_820_530_830] 830 - no output, no metering

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-05 22:26:23 UTC
From: Ron
Topic: 48698 Message: 48715

Check the driver tube and the. Two resisters on hv board no drive no output

Ron KK4PWF

On May 5, 2014, at 2:16 PM, Craig Roberts <crgrbrts@verizon.net> wrote:

>
>
> On 5/5/2014 3:08 PM, Ron wrote:
>> Any alc ?
>>
>> On 5/5/2014 3:15 PM. Craig writes:
>
> Nope!
>
> 73,
>
> Craig
> W3CRR
>
>
>
>

48716. Ground and -65V on Key for TS530S - First post.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-05 21:09:45 UTC
From: Gary Hughes
Topic: 48716 Message: 48716

Hello All,

My name is Gary, 2E0REV....
I am slowly getting to grips with my cherished TS530S, after getting an ATU230 I want to wire up and connect my Czech Morse Key. (only ever used on an oscillator... so far) to my radio
From what I have seen plate and load can be adjusted using the CW switch.
I also want to carry out some tests using the key to determine power outputs when tuning and to see what my out put valces are running at.

My two questions:

How do I wire my key so I do not get the polarity wrong and damage my radio?
From the manual there is a ground and -65V...
How can I tell if I have wired it correctly?

Secondly, I have picked up a mono jack plug from local electronics store, will it hanle the 65V potential difference.. or should a specialised plug be used?

I have also picked up a chassis socket so I can re-configure my oscillator to use the new jack plug instead of the banana plugs originally fitted.
This and other std test equipment I have can be used to test and verify any solution offered prior to connecting to my radio.

Any assistance or advice greatly appreciated, if there is a thread already please lt me know of the location.

I look forward to your replies.

73 2E0REV
Gary

48717. Re: Hello and trouble shooting question on a 520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-05 21:59:15 UTC
From: <brett_forehand@...>
Topic: 48688 Message: 48717

Hey Jeff, congrats on getting Tech. I'm working on General, too. I also have a TS520,and had an issue similar to yours (tuned ok, output on CW, NOTHING on SSB). I found that the mic gain/compressor control had a little play in it, and when I wiggled it, the rig would have output. I used DeOxit to clean mine, and that seems to have cured it for now. Just a thought to add to your troubleshooting, it worked for me.

73,
Brett KF5WXP

48718. Re: [TS-520_820_530_830] Ground and -65V on Key for TS530S - First post.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-05 23:33:30 UTC
From: Mike W5RKL
Topic: 48716 Message: 48718

Gary,

The key you speak about using, a Czech Morse Key, appears to be an enclosed straight key, at least that's what I can get from the website I found that talks about the key and shows a picture of the key. I could be wrong but if the key is an enclosed straight key then it's nothing more than a SPST N.O. switch that is closed only when you press on the key with your fingers. Also if the key is a straight key then it doesn't matter how you wire the CW key mono plug. A simple mono plug will work AND handle the -65VDC CW keying voltage.

73
Mike W5RKL

On 5/5/2014 4:09 PM, Gary Hughes wrote:
>
> Hello All,
>
> My name is Gary, 2E0REV....
> I am slowly getting to grips with my cherished TS530S, after getting
> an ATU230 I want to wire up and connect my Czech Morse Key. (only ever
> used on an oscillator... so far) to my radio
> From what I have seen plate and load can be adjusted using the CW switch.
> I also want to carry out some tests using the key to determine power
> outputs when tuning and to see what my out put valces are running at.
>
> My two questions:
>
> How do I wire my key so I do not get the polarity wrong and damage my
> radio?
> From the manual there is a ground and -65V...
> How can I tell if I have wired it correctly?
>
> Secondly, I have picked up a mono jack plug from local electronics
> store, will it hanle the 65V potential difference.. or should a
> specialised plug be used?
>
> I have also picked up a chassis socket so I can re-configure my
> oscillator to use the new jack plug instead of the banana plugs
> originally fitted.
> This and other std test equipment I have can be used to test and
> verify any solution offered prior to connecting to my radio.
>
> Any assistance or advice greatly appreciated, if there is a thread

> already please lt me know of the location.
>
> I look forward to your replies.
>
> 73 2E0REV
> Gary
>
>
>

48719. Re: [TS-520_820_530_830] TS-820 with no output / no high voltage

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-06 00:30:39 UTC
From: John Davidson
Topic: 48705 Message: 48719

Running any digital mode that transmitts a constant carrier will overbheat and damage tubes in a hybrid rig, and in this case you may have blown out the cathode resistors in the final circuit.
On Monday, May 5, 2014 1:38 PM, "sm5utt@..." <sm5utt@...> wrote:

Hello group,

I just (re)joined the group after I have broken my beloved and trusted TS-820. Yesterday I tried to make a PSK31 QSO and the rig tuned up OK. But when I tried to transmit with my new computer I didn't pay enough attention to the audio level resulting in massive ALC reading on my rig. I of course put the radio in receive mode as quickly as I could (about 1 sec on TX), but damage seems to have struck anyways. After that escapade there is no power output indicated on my external SWR meter in any mode including Tune, and there is no IP reading when I flip the T/R switch. There is also no high voltage reading, which I realize is needed for the tubes to work. :-)

I haven't checked anything inside the rig yet, I don't want to make bad worse. Where do I begin my search?

Thanks for any advice!

73 de SM5UTT / Marcus

48720. Re: Hello and trouble shooting question on a 520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-06 00:51:38 UTC
From: <rhumstruck@...>
Topic: 48688 Message: 48720

Thanks Brett,
I think it is a dirty pot. Deoxit here we go. :) That's OK with me. This way I learn something!! I know I have to pull the VFO one of these days and clean the bearings and relube. I expected to work on this rig and chose this old tank because I can do my own work if I know what to do. Not getting on the air isn't quite the handicap I expected. I have a lot of listening time to several nets and many, many rag chews. I'm learning something new every day and having a blast doing it. Plus I'm learning my rig inside and out!! I was concerned about getting a suitable wire in the air and built a ZS6BKW 300 ohm twin lead fed dipole set up as an inverted V. It's supposed to work all bands on my 520 without a tuner. Well, I expect 75 meters will take a tuner, but thats not the end of the world. I'm going to find out.
73 jeff KD9AGN

48721. Re: Neutralizing TS-530S after many years of use

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-06 02:59:01 UTC
From: <louis.wilen@...>
Topic: 48646 Message: 48721

Thanks for the very detailed and helpful reply, Terry.

In answer to the questions that in your response:

1. I expected that I'd get the voltage down to 10 mV, based on http://www.k4eaa.com/faq.htm http://www.k4eaa.com/faq.htm (How can I Neutralize my Finals?, point #6, "You should be able to get down to 10 millivolts or so."). Having read your explanation, I now realize that K4EAA was using the 10 mV figure as just a typical value, not a specific set point. And no, when I got that 2.4 mV null I did not rock the Plate Tune capacitor back and forth to obtain another peak in RF voltage. That didn't even occur to me, but now that you mention this (optional) "step", I understand better the principals behind neutralization, even though taking this extra step is, as you said, a waste of time.

2. Great explanation. This also clears things up.

3. Ibid.

4. Ibid.

5. The neutralizing capacitor screw was stiff to turn. Definitely designed to not turn accidentally.

Would you mind if I forward my question and your answer to K4EAA and suggest that he add it to his FAQ (with full credit to you, of course)? I think that it would be a worthwhile enhancement to the neutralization explanation in his FAQ.

Louis
W3LMW

48722. RE: [TS-520_820_530_830] Ground and -65V on Key for TS530S - First post.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-06 10:52:38 UTC
From: Gary Hughes
Topic: 48716 Message: 48722

Thanks Mike,

Your information ties in with my knowledge of the key and how it operates, knowing the jack is also able to handle the voltage is also good.
Thankyou for your reply, it give me confidence in connecting the key to my radio.

On a seperate thread, as a new user of the 530S are there any tune up sequences you would recommend ... that are not in the manual....?

Many thanks for your time.

73 Gary, 2E0REV.

To: TS-520_820_530_830@yahoogroups.com
From: w5rkl@yahoo.com
Date: Mon, 5 May 2014 18:33:30 -0500
Subject: Re: [TS-520_820_530_830] Ground and -65V on Key for TS530S - First post.

Gary,

The key you speak about using, a Czech Morse Key, appears to be an enclosed straight key, at least that's what I can get from the website I found that talks about the key and shows a picture of the key. I could be wrong but if the key is an enclosed straight key then it's nothing more than a SPST N.O. switch that is closed only when you press on the key with your fingers. Also if the key is a straight key then it doesn't matter how you wire the CW key mono plug. A simple mono plug will work AND handle the -65VDC CW keying voltage.

73
Mike W5RKL

48723. Re: [TS-520_820_530_830] Ground and -65V on Key for TS530S - First post.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-06 11:39:25 UTC
From: Mike W5RKL
Topic: 48716 Message: 48723

Gary,

The only thing I can say is I recommend you thoroughly read the manual, paying attention to each control and what the control is for. If you have any questions about what you read in the manual, don't side step them, ask here so we can explain them for you. Too many hams today don't take the time to read the manual. Quite often some problems experienced by the operator are "operator error" because the operator didn't read the manual or they read it, didn't understand what the manual was telling them but they simply didn't ask for help/explanation!!

Do you have a 50 ohm dummy load that has a power rating of 200 watts or higher? If not then I recommend you purchase one. Start learning to tune up the 530 into a 50 ohm dummy load then switch the 530 to what ever antenna you will be using.

Make sure you check the 60ma idling current bias pot setting before you attempt any operation on any mode!

During TUNE mode DRIVE control adjustment with the meter switch set to ALC, ignore the ALC scale!! Adjust the DRIVE control for a peak meter "pointer" indication. If the meter pegs fully to the right simply rotate the CAR control so the meter pointer drops to 11 o'clock then continue adjusting the DRIVE control for a peak meter pointer indication. The only time the ALC scale comes into play is in USB or LSB mode operation.

If you do not have a watt meter then I recommend you purchase one. The watt meter should have a power rating of at least 200 watts or higher. You should always tune the 530 up into a 50 ohm load then switch to the antenna of your choice.

If the watt meter you are using is an average type understand the peak indication you will see during USB or LSB operation will be approximately 20 to 25 watts on peaks. This is normal and should not be an indication that you turn the MIC gain up so the power indication is higher. If you do that you will create splatter and make a lot of stations mad at you so do not fall into the trap many inexperienced hams tend to do and that is to turn the MIC gain up so the watt meter shows full output!! Understand that it's NOT how "LOUD" you sound at the receiving end but how "CLEAN" your transmit signal is with the MIC gain set properly!!!

Good luck and enjoy your 530.

73
Mike W5RKL

On 5/6/2014 5:52 AM, Gary Hughes wrote:
> Thanks Mike,
>
> Your information ties in with my knowledge of the key and how it
> operates, knowing the jack is also able to handle the voltage is also
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> Many thanks for your time.
>
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>

48724. Re: Neutralizing TS-530S after many years of use

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-06 11:40:51 UTC
From: <wagstw46@...>
Topic: 48646 Message: 48724

Louis:

The only enhancement to Cold Neutralizing that I provided over what Ken has on his site is to re-peak the Pi-network Plate Tune and Plate Load capacitors after the first 2 or 3 null adjustments. The goal is to get the maximum RF output to occur as close as possible to the plate current dip.

I was trying to explain that there is no magic minimum feed thru RF voltage level specification. Kens 10mv is a level that from experience should be attainable. You proved that in your experience 2.5mv is attainable. In either case I wanted you to know since you had not re-peaked the tank circuit after reaching this null you had not accomplished a "perfect" neutralization and that in practice there is no reason to fixate on it as the moment you move that VFO and/or that bandswitch you wont have 2.5mv.

You can Goggle on Neutralization and Neutralization of Tetrodes and find numerous technical discussions. Eimac has an excellent Section 5 Bulletin if you are interested in learning more. Some of the best Ham discussions include the work that Tom Rauch W8JI and Peter Roberts G4DJB (Yaesu FT-101 Restoration site....I almost couldnt type the 'Y' word!) have on the subject. Toms will be more technical treatise and Peters is just a step by step procedure under his restoration page.

Just wanted you to have a better understanding of the what and why and the practical aspects of what you are doing when you neutralize.

With a Class AB1 rf amplifier in practice peak RF output and minimum plate current are not going to occur precisely at the same point. Have to understand resonance, anti-resonance, elliptical load lines etc to understand why this occurs and far too many key strokes required. This is one of the reasons why loading for max RF output within plate dissipation is much better than the old dip and load method.

You are free to send Ken anything you want. He doesnt need any tutorials from me and not likely he will be revising his website content based on any of my work. On most things he and I are in total agreement and on others we have differing opinions. We are friends and not in competition with each other. I like to think we complement each other for the most part.

73s
Terry K9TW

48725. Re: [TS-520_820_530_830] TS-820 with no output / no high voltage

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-06 13:48:37 UTC
From: Ron
Topic: 48705 Message: 48725

I agree with John ,also might want to check resistors on hv board . Beware of high voltage or u might wind up a SK !!!!!

Ron KK4PWF

On May 5, 2014, at 7:30 PM, John Davidson <k8jd@...> wrote:

>
>
> Running any digital mode that transmitts a constant carrier will overbheat and damage tubes in a hybrid rig, and in this case you may have blown out the cathode resistors in the final circuit.
> On Monday, May 5, 2014 1:38 PM, "sm5utt@gmail.com" <sm5utt@...> wrote:
> Hello group,
>
> I just (re)joined the group after I have broken my beloved and trusted TS-820. Yesterday I tried to make a PSK31 QSO and the rig tuned up OK. But when I tried to transmit with my new computer I didn't pay enough attention to the audio level resulting in massive ALC reading on my rig. I of course put the radio in receive mode as quickly as I could (about 1 sec on TX), but damage seems to have struck anyways. After that escapade there is no power output indicated on my external SWR meter in any mode including Tune, and there is no IP reading when I flip the T/R switch. There is also no high voltage reading, which I realize is needed for the tubes to work. :-)
>
> I haven't checked anything inside the rig yet, I don't want to make bad worse. Where do I begin my search?
>
> Thanks for any advice!
>
> 73 de SM5UTT / Marcus
>
>
>
>
>

48726. Re: [TS-520_820_530_830] TS-820 with no output / no high voltage

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-06 14:33:39 UTC
From: Ron
Topic: 48705 Message: 48726

Also check choke from terminal strip in final section to the bottom of coil between final tubes again beware of hv in radio !!!!

Ron KK4PWF

On May 6, 2014, at 8:48 AM, Ron <bozo231@...> wrote:

>
>
> I agree with John ,also might want to check resistors on hv board . Beware of high voltage or u might wind up a SK !!!!!
>
> Ron KK4PWF
>
> On May 5, 2014, at 7:30 PM, John Davidson <k8jd@...> wrote:
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>> Thanks for any advice!
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48727. RE: [TS-520_820_530_830] Ground and -65V on Key for TS530S - First post.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-06 21:03:26 UTC
From: Gary Hughes
Topic: 48716 Message: 48727

Hello Mike,

Many thanks for your comprehensive mail.

Good news, my key now has a phono plug on it and is working well in the 530, I just need to get past any operator error and use the radio as it should be used.

I do not have a dummy load, that is my next aquisition, I may build one myself, there are plenty of schematics out there to choose from.

The ATU230 has a power meter, as well as all the switches to tune up on a dummy load, my HAM depth of knowledge and understanding is coming together exponentially at the moment.

You nailed the MIC gain scenario this was why I was keen to get a key connected to the radio.

Two questions have come to mind since connecting the key...

1)With the mode on switch CW, when the REC/SEND switch is in the REC position I can hear signals on the band, but only CW power goes out when the switch is in SEND...

Do I really need to switch between REC and SEND t send and recieve CW if I was working the key?

2) I can hear CW when mode is set to LSB on 40m.... but when I change to the CW mode the signal is lost and can not be resolved to CW signal that can be listened to, this has perpleaxed me, but today is the first time I have tried this.

Should this be the case?

As said earlier, I am on the steep learning curve for the 530 at present but enjoying the journey, this also leads back to reading the manual but not understanding it...

Again many thanks for your time.

73
Gary 2E0REV.

To: TS-520_820_530_830@yahoogroups.com
From: w5rkl@yahoo.com
Date: Tue, 6 May 2014 06:39:25 -0500
Subject: Re: [TS-520_820_530_830] Ground and -65V on Key for TS530S - First post.

Gary,

The only thing I can say is I recommend you thoroughly read the manual, paying attention to each control and what the control is for. If you have any questions about what you read in

the manual, don't side step them, ask here so we can explain them for you. Too many hams today don't take the time to read the manual. Quite often some problems experienced by the operator are "operator error" because the operator didn't read the manual or they read it, didn't understand what the manual was telling them but they simply didn't ask for help/explanation!!

Do you have a 50 ohm dummy load that has a power rating of 200 watts or higher? If not then I recommend you purchase one. Start learning to tune up the 530 into a 50 ohm dummy load then switch the 530 to what ever antenna you will be using.

Make sure you check the 60ma idling current bias pot setting before you attempt any operation on any mode!

During TUNE mode DRIVE control adjustment with the meter switch set to ALC, ignore the ALC scale!! Adjust the DRIVE control for a peak meter "pointer" indication. If the meter pegs fully to the right simply rotate the CAR control so the meter pointer drops to 11 o'clock then continue adjusting the DRIVE control for a peak meter pointer indication. The only time the ALC scale comes into play is in USB or LSB mode operation.

If you do not have a watt meter then I recommend you purchase one. The watt meter should have a power rating of at least 200 watts or higher. You should always tune the 530 up into a 50 ohm load then switch to the antenna of your choice.

If the watt meter you are using is an average type understand the peak indication you will see during USB or LSB operation will be approximately 20 to 25 watts on peaks. This is normal and should not be an indication that you turn the MIC gain up so the power indication is higher. If you do that you will create splatter and make a lot of stations mad at you so do not fall into the trap many inexperienced hams tend to do and that is to turn the MIC gain up so the watt meter shows full output!! Understand that it's NOT how "LOUD" you sound at the receiving end but how "CLEAN" your transmit signal is with the MIC gain set properly!!!

Good luck and enjoy your 530.

73
Mike W5RKL

48728. Re: [TS-520_820_530_830] Ground and -65V on Key for TS530S - First post.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-06 22:02:18 UTC
From: Mike W5RKL
Topic: 48716 Message: 48728

Gary,

Question 1
You do NOT have to use the SEND switch to switch from receive to transmit and back again. For CW all you need to do is turn VOX "ON". This allows you to operate "Semi Break-in" where all you do is start sending CW in CW mode. The VOX circuit will control the transmitter. You will also hear your CW sending in the speaker, this is what is called a "Side tone" but you hear it in CW ONLY and ONLY when you are sending. When you stop sending the VOX DELAY times out and the 530 switches to receive automatically based on how you set the VOX DELAY. Set the VOX "DELAY" control so the transmitter remains keyed between the dits and dahs for a second or two. You will have to play with the VOX DELAY to get the delay set to the time period that you are comfortable with. This is covered in the 530 operator's manual.

Question 2
If you can hear CW and other signals in USB or LSB modes but when you switch to CW mode the receiver appears to be dead then more than likely the previous owner had the CW filter installed but removed the CW filters when he sold the radio but he did not put the CW/SSB filter jumpers back when no CW filter is installed. If you look on page 23 in the 530 operator's manual, Figure 5-2 "Filter Installation", jumper "A", with no CW filter installed, should be connected to "CW" not "SSN". Jumper "B" should be connected to "SSB" not "SSN". The jumpers are located on the upper left corner of the IF UNIT board. Remove the top cover of your 530, the IF UNIT board is on the "left" (front panel facing you). Look at the "A" and "B" jumpers in the upper left corner, if jumpers "A" and "B" are both connected to "SSN", move jumper "A" to "CW" and jumper "B" to "SSB". You will need to use a soldering pencil, 30 watts maximum, to move and solder the jumpers to the "CW" and "SSB" terminals on the IF UNIT board. This will allow you to operate and hear CW signals with the Mode switch set to CW.

If you feel you cannot perform the filter wiring/jumper changes I mentioned above then find a local ham who has the experience who can help you. Don't try to do this if you are unsure of yourself as you can damage the IF UNIT board.

73
Mike W5RKL

On 5/6/2014 4:03 PM, Gary Hughes wrote:
> Hello Mike,
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> the 530, I just need to get past any operator error and use the radio
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> Again many thanks for your time.
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> 73
> Gary 2E0REV.
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> From: w5rkl@...
> Date: Tue, 6 May 2014 06:39:25 -0500
> Subject: Re: [TS-520_820_530_830] Ground and -65V on Key for TS530S -
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48729. Re: [TS-520_820_530_830] Ground and -65V on Key for TS530S - First post.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-06 22:19:51 UTC
From: John Davidson
Topic: 48716 Message: 48729

Gary,
If you want to be able to work semi-break-in, where the radio switches automatically to Transmit mode when you press the key, switch to vox mode and set the VOX delay max Clockwise. If you release the key the radio switches back to receive in a second. You just leave the T/R switch in the Receive position.
On Tuesday, May 6, 2014 6:02 PM, Mike W5RKL <w5rkl@...> wrote:

Gary,

Question 1
You do NOT have to use the SEND switch to switch from receive to transmit and back again. For CW all you need to do is turn VOX "ON". This allows you to operate "Semi Break-in" where all you do is start sending CW in CW mode. The VOX circuit will control the transmitter. You will also hear your CW sending in the speaker, this is what is called a "Side tone" but you hear it in CW ONLY and ONLY when you are sending. When you stop sending the VOX DELAY times out and the 530 switches to receive automatically based on how you set the VOX DELAY. Set the VOX "DELAY" control so the transmitter remains keyed between the dits and dahs for a second or two. You will have to play with the VOX DELAY to get the delay set to the time period that you are comfortable with. This is covered in the 530 operator's manual.

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>_____
>To: TS-520_820_530_830@yahoogroups.com
>From: w5rkl@...
>Date: Tue, 6 May 2014 06:39:25 -0500
>Subject: Re: [TS-520_820_530_830] Ground and -65V on
Key for TS530S - First post.
>
>Â
>Gary,
>
>The only thing I can say is I recommend you
thoroughly read the manual, paying attention to
each control and what the control is for. If you
have any questions about what you read in the
manual, don't side step them, ask here so we can
explain them for you. Too many hams today don't
take the time to read the manual. Quite often
some problems experienced by the operator are
"operator error" because the operator didn't
read the manual or they read it, didn't
understand what the manual was telling them but
they simply didn't ask for help/explanation!!
>
>Do you have a 50 ohm dummy load that has a power
rating of 200 watts or higher? If not then I
recommend you purchase one. Start learning to
tune up the 530 into a 50 ohm dummy load then
switch the 530 to what ever antenna you will be
using.
>
>Make sure you check the 60ma idling current bias
pot setting before you attempt any operation on
any mode!
>
>During TUNE mode DRIVE control adjustment with
the meter switch set to ALC, ignore the ALC
scale!! Adjust the DRIVE control for a peak
meter "pointer" indication. If the meter pegs
fully to the right simply rotate the CAR control
so the meter pointer drops to 11 o'clock then
continue adjusting the DRIVE control for a peak

meter pointer indication. The only time the ALC
scale comes into play is in USB or LSB mode
operation.
>
>If you do not have a watt meter then I recommend
you purchase one. The watt meter should have a
power rating of at least 200 watts or higher.
You should always tune the 530 up into a 50 ohm
load then switch to the antenna of your choice.
>
>If the watt meter you are using is an average
type understand the peak indication you will see
during USB or LSB operation will be
approximately 20 to 25 watts on peaks. This is
normal and should not be an indication that you
turn the MIC gain up so the power indication is
higher. If you do that you will create splatter
and make a lot of stations mad at you so do not
fall into the trap many inexperiencedÂ hams
tend to do and that is to turn the MIC gain up
so the watt meter shows full output!! Understand
that it's NOT how "LOUD" you sound at the
receiving end but how "CLEAN" your transmit
signal is with the MIC gain set properly!!!
>
>Good luck and enjoy your 530.
>
>73
>Mike W5RKL
>
>
>

48730. RE: [TS-520_820_530_830]830 RF board

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-06 23:43:42 UTC
From: fpath fpath
Topic: 48670 Message: 48730

Hi Group,

Does anyone have a parts RF board for an 830s, I require C77, which is soldered on the outside of VC2 and VC3

73s

Dave

VK5PDL

48731. 830 - no output, no metering CURED!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-07 05:17:28 UTC
From: Craig Roberts
Topic: 48698 Message: 48731

Today I successfully overcame the no drive/no ALC/no metering/no output problem on a TS-830S that I've been complaining about for the past couple of days.

The radio did not arrive with this malfunction. It landed on my bench with a couple of other problems.One was quite curious. Even though power output was normal (100 watts on all bands), the iP reading was quite low -- somewhere around 160 mA or lower at the highest reading. ALC metering was very low, too.

I learned later that a previous owner, suffering from meteriindications that were way too high, wired a "meter correction" resistor in series with the iPM line to the final amp board. This, of course, did not address the root problem, but merely disguised it. In fact, the resistor overcompensated, yielding the low metering results I was seeing. Before I discovered this, however, I took a step that led to unpleasant complications. Noting that the bias current appeared to be way too low, I re-set it to read the desired 60 mA.I was the suffer the consequences soon thereafter.

After adjusting the bias with no apparent results and then discovering the modification to the metering circuit, I replaced the cathode resistors R2-R5 on the Final Unit board as well as the screen resistors R7 and R8 on the same board.When I powered up the radio, the receiver worked fine, but the transmitter was now dead. I hastily rechecked my resistor installations but found nothing amiss. I explored Molex connectors and -- aha! (I thought) found two headers on the IF board that were "wiggly".I cleaned off their traces and resoldered them.While I had the underbelly of the board handy, I replaced the four screen and driver electrolytics C178-C181 and wired in one of Ken Kemski's nifty new RL-1 relay boards to replace the tired old relay.

Still nothing on transmit.

I revisited the original work on my Final Unit board but still found no evidence of foul play on my part.Then, something next door on the Rectifier board caught my eye. R11, the 470 ohm 1 watt screen resistor, looked a little odd.I had measured it with power off from the underside of the board earlier and it seemed okay. However, on close examination a hairline crack could be seen 'round its middle.With a slight tug the resistor disintegrated, falling into four pieces.

Replacement of R11 was quick and easy and cured all ills.Metering was now normal. Remembering that I had "corrected" the bias current earlier, I quickly re-set it to the now proper level as evidenced by my now accurate meter. A quick check of the radio showed 100 watts plus output

on all bands at a conservative 220 mA.

Since I had the covers off, I went ahead and replaced C22 and C24 (the big 'lytics) on the chassis and installed Terry's excellent Final Unit Cathode/Screen Grid Protection mod as published on Mark Gilger's (WB0IQK) terrific website.

Lesson learned: use some logic when troubleshooting. If I had reflected upon the fact that the metering was wildly inaccurate when the radio arrived, I would have realized that "correcting" the bias current setting was counterproductive, to say the least. In actuality, I had erroneously set the bias to about 200 mA, even though it read 60. This was not good.Perhaps this is what blew screen resistor on the Rectifier board.At any rate, that resistor should have been an early suspect. Replacing it as I installed the new resistors on the Final Unit board would have saved me the better part of a day chasing non-existent gremlins.

73,

Craig
W3CRR

48732. Re: [TS-520_820_530_830] 830 - no output, no metering CURED!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-07 07:12:11 UTC
From: Ron
Topic: 48698 Message: 48732

Glad u got it up an running !

Ron KK4PWF

On May 7, 2014, at 12:17 AM, Craig Roberts <crgrbrts@...> wrote:

>
>
> Today I successfully overcame the no drive/no ALC/no metering/no output problem on a TS-830S that I've been complaining about for the past couple of days.
>
> The radio did not arrive with this malfunction. It landed on my bench with a couple of other problems. One was quite curious. Even though power output was normal (100 watts on all bands), the iP reading was quite low – somewhere around 160 mA or lower at the highest reading. ALC metering was very low, too.
>
> I learned later that a previous owner, suffering from meteriindications that were way too high, wired a "meter correction" resistor in series with the iPM line to the final amp board. This, of course, did not address the root problem, but merely disguised it. In fact, the resistor overcompensated, yielding the low metering results I was seeing. Before I discovered this, however, I took a step that led to unpleasant complications. Noting that the bias current appeared to be way too low, I re-set it to read the desired 60 mA. I was the suffer the consequences soon thereafter.
>
> After adjusting the bias with no apparent results and then discovering the modification to the metering circuit, I replaced the cathode resistors R2-R5 on the Final Unit board as well as the screen resistors R7 and R8 on the same board. When I powered up the radio, the receiver worked fine, but the transmitter was now dead. I hastily rechecked my resistor installations but found nothing amiss. I explored Molex connectors and – aha! (I thought) found two headers on the IF board that were "wiggly". I cleaned off their traces and resoldered them. While I had the underbelly of the board handy, I replaced the four screen and driver electrolytics C178-C181 and wired in one of Ken Kemski's nifty new RL-1 relay boards to replace the tired old relay.
>
> Still nothing on transmit.
>
> I revisited the original work on my Final Unit board but still found no evidence of foul play on my part. Then, something next door on the Rectifier board caught my eye. R11, the 470 ohm 1 watt screen resistor, looked a little odd. I had measured it with power off from the underside of the board earlier and it seemed okay. However, on close examination a hairline crack could be seen 'round its middle. With a slight tug the resistor disintegrated, falling into four pieces.
>
> Replacement of R11 was quick and easy and cured all ills. Metering was now normal. Remembering that I had "corrected" the bias current earlier, I quickly re-set it to the now proper level as evidenced by my now accurate meter. A quick check of the radio showed 100

watts plus output on all bands at a conservative 220 mA.
>
> Since I had the covers off, I went ahead and replaced C22 and C24 (the big ‘lytics) on the chassis and installed Terry’s excellent Final Unit Cathode/Screen Grid Protection mod as published on Mark Gilger’s (WB0IQK) terrific website.
>
> Lesson learned: use some logic when troubleshooting. If I had reflected upon the fact that the metering was wildly inaccurate when the radio arrived, I would have realized that “correcting” the bias current setting was counterproductive, to say the least. In actuality, I had erroneously set the bias to about 200 mA, even though it read 60. This was not good. Perhaps this is what blew screen resistor on the Rectifier board. At any rate, that resistor should have been an early suspect. Replacing it as I installed the new resistors on the Final Unit board would have saved me the better part of a day chasing non-existent gremlins.
> 73,
> Craig
> W3CRR
>
>
>
>

48733. Re: 830 - no output, no metering CURED!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-07 11:35:05 UTC
From: <wagstw46@...>
Topic: 48698 Message: 48733

Craig

How would having no screen grid voltage cause you to have no S-meter indication in RX mode? I thought you reported that condition as well?

For ALC indication in Tune mode you need:
1. 6146 cathode emission -- heaters on
2. Normal operating bias voltage on the control grids (approx -60vdc)
3. Normal RF drive level (approx 45 rms rf volts) at the control grids to overcome the operating bias offset.

You do not need screen grid voltage on the 6146 finals for ALC indication in Tune Mode.

If R11 was open that means no 210A bus/rail voltage which means no screen grid voltage to the 12BY7A tube which means you had no RF drive output at plate of the Driver tube. Which means no RF drive at 6146 control grids.

When you reported no S meter in Rx mode and no ALC I was looking for a commonality and that is why I pointed you to Conn 10 on the AF board to make sure you had SM from the IF board and ALC bus was energized at 3.6vdc. If you had SM arriving at the board then I was hoping you would find bad contact on RL-1.

Have you resolved the no S-meter problem? Did installing Kens new relay resolve this problem?

Terry k9TW

48734. Re: [TS-520_820_530_830] Re: 830 - no output, no metering CURED!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-07 12:32:08 UTC
From: Craig Roberts
Topic: 48698 Message: 48734

Terry:

Yes, indeed, the reported S-meter problem has been resolved as well. I am guessing that the replacement of RL-1 solved that.

The one remaining unpleasantry has to do with the band switch. It is functioning perfectly well, but I would like to replace the original nylon shaft coupler, which is cracked. The problem is that a repair with epoxy cement (!) was made to it by a former owner or tech (the radio has two service labels affixed tot he rear panel. The coupler is essentially potted in cement and may prove darned near impossible to remove. The purist in me hates to leave it as is, however.

Thanks,

Craig
W3CRR
>

48735. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-07 13:32:53 UTC
From: <leonardmiller579@...>
Topic: 48679 Message: 48735

Hello Terry, I'll look into that. Someone else here also asked me if I had the RF board out. I didn't be ut, he said there's a possibility that the shaft could've been put back in 180 out?

I never checked the output of this radio before I started working on it. I went right to the receiver since that was the most apparent problem when I turned it on. There are two areas that I"m going to check the next time I get up on the bench. I'll check the bandswitch and clean it again (DeOxit), and look at the Plate & Load caps that you mentioned. Something really crazy is going on here.

I might add that the rx is also poor on 40, and possibly non existent on 80 & 160. At least it seems that way. I can't be sure since the bands don't seem to be that great lately. I will say that I've never heard anything on 80 & 160, but I have heard signals on 40. 40 meters is where the power output starts going down. The problems seem to be related?

Maybe this bit of info will help?

Leonard/wv3p

48736. Re: [TS-520_820_530_830] Re: 830 - no output, no metering CURED!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-07 17:54:51 UTC
From: <wagstw46@...>
Topic: 48698 Message: 48736

That is amazing that someone would use "glue" on it.

A real KW repairman!

Well PA cage can be removed to gain access, but lots of work.

I could not live with it either. Have fun!

Terry K9TW

48737. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-07 17:56:12 UTC
From: <wagstw46@...>
Topic: 48679 Message: 48737

What is the Marker signal level on 80 and 160?

Terry K9TW

48738. FOR SALE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-07 18:32:09 UTC
From: <wagstw46@...>
Topic: 34493 Message: 48738

I have following items for sale:

1. Heathkit PK-3 RF Probe. This is the 3 diode probe that can be safely used to measure the RF drive level at the 12BY7A Driver tube plate or at the 6146 Finals control grids. I would say it is cosmetic 7 to 8. A small dymo label that states "3 diodes" has been affixed to the aluminum barrel. I have tested it and it is the 3 diode probe. $20 shipped.

2. Four NOS Aromat NF4EB-12V RL-1 Aux Relays (TS530 IF board and TS830 AF board). This is the replacement for the original and discontinued clear case Omron LZN4 relay that causes the intermittent Rx and Tx problems. All four shipped for $50.00 (CONUS) or $15.00 for one shipped.

Please contact me off List.

Terry K9TW

48739. Re: [TS-520_820_530_830] FOR SALE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-07 18:41:33 UTC
From: Mike W5RKL
Topic: 34493 Message: 48739

I'll take the RF probe if it's not sold?? Is paypal ok?

73
Mike W5RKL

On 5/7/2014 1:32 PM, wagstw46@... wrote:
>
> I have following items for sale:
>
>
> 1. Heathkit PK-3 RF Probe. This is the 3 diode probe that can be
> safely used to measure the RF drive level at the 12BY7A Driver tube
> plate or at the 6146 Finals control grids. I would say it is cosmetic
> 7 to 8. A small dymo label that states "3 diodes" has been affixed to
> the aluminum barrel. I have tested it and it is the 3 diode probe. $20
> shipped.
>
>
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> AF board). This is the replacement for the original and discontinued
> clear case Omron LZN4 relay that causes the intermittent Rx and Tx
> problems. All four shipped for $50.00 (CONUS) or $15.00 for one shipped.
>
>
> Please contact me off List.
>
>
> Terry K9TW
>
>

48741. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-08 00:18:29 UTC
From: <leonardmiller579@...>
Topic: 48679 Message: 48741

Terry, I just checked it. I wanted to be sure that I had covered that base. It's over S-9 on both bands..

Leonard/wv3p

48742. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-08 00:23:06 UTC
From: <leonardmiller579@...>
Topic: 48679 Message: 48742

Terry it's more then s-9 on both bands.

Leonard WV3P

48743. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-08 11:08:26 UTC
From: <wagstw46@...>
Topic: 48679 Message: 48743

If you are receiving on 40 meters then it tells you that the "common" receive path from the SO-239 to the RF board is good (ant relay contacts, rf attenuator contacts etc).

Marker signal is not as good a test as calibrated RF sig gen but a good Marker signal on 160 and 80 tells you that the RF front end and the IF chain is good.

What kind of antenna are you using to copy on 160 and 80 meters?

A short length of random wire wont be very good. It is amazing how much difference a resonant antenna (like a half wave dipole) makes in the level of RF voltage available at the SO-239.

With rig on 3.5 mhz and VFO at 200 to 250 does the Drive Control peak close to 1200 position?

Terry K9TW

48744. Re: FOR SALE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-08 11:13:39 UTC
From: <wagstw46@...>
Topic: 34493 Message: 48744

The RF probe and 4 relays are gone. Thanks for all the interest.

I found 3 more relays. Two NOS and one that was pulled from customers radio as he wanted to upgrade to Ken K4EAA new double relay.

Asking $15.00 shipped for each NOS and $10.00 shipped for the pull (owner says about 1 year operation on it). Will take $30.00 shipped for all three.

Pay pal is OK.

Contact me off the List.

Thanks
Terry K9TW

48745. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-08 12:23:03 UTC
From: <tjb813@...>
Topic: 48679 Message: 48745

With the screen voltage off, and a dummy load connected, what ALC levels do you get on each band? If they are ok, then the problem is in the finals area.

If its the finals area, check the plate blocking cap and plate choke bypass cap. These are known problem areas.

KD8CN

48746. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-08 14:08:49 UTC
From: <leonardmiller579@...>
Topic: 48679 Message: 48746

I will check.

Leonard/WV3P

48747. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-08 14:19:29 UTC
From: <leonardmiller579@...>
Topic: 48679 Message: 48747

Terry, the antenna is a Hygain 18avt vertical. It's not set-up for 160 meters so I can't really test the receive on that band. I've assumed that I should be able to hear something on that band even though the antenna is not actually for that band. On 80 I've never really heard anything, even though my ts-2000 is picking up stations at the house. The ts-2000 is on a different antenna (Gap), but it is a vertical. Granted this is a very rough comparison, but it's all I have to work with at the moment. Some of weakness I attribute to the radio could actually be with the antenna, but without further testing I can't really be sure.

When I get up to the Pole Barn I'll give you an update on the Drive Control.

Leonard/WV3P

48748. 520S - transmission faded out to nothing

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-08 12:20:32 UTC
From: <lpleach@...>
Topic: 48748 Message: 48748

Hi all,
I have a fairly new-to-me 520S. After getting my D-104 wired properly, I was transmitting an excellent signal and happy as can be. Then one day my contact was having a hard time hearing me. I saw on the meter that the strength was down to about 20%. I thought the mic was giving me trouble again. The next day, output was nothing at all.

I got a new mic and got the same. I got an MC-50 yesterday and again the same thing. I have a copy of the manual and have (several times) run the "Normal Transceiver Calibration" in section 4.4 of the manual. It's running beautifully other than this issue. Help!

Larry

KF5YZZ

48749. Re: [TS-520_820_530_830] 520S - transmission faded out to nothing

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-08 15:51:36 UTC
From: Joseph Stiles
Topic: 48748 Message: 48749

Larry,

Very possible you have a failing 12by7a driver or failing final amplifier tube(s).

Tune up rig as usual(dummy load please). Check plate current (Ip) during transmit(CW-key down) Falling plate current (Ip) usually indicates failing final tube(s).

  Falling drive level usually indicates failing driver tube.

  Check your HV(high voltage) using the front panel meter...a small drop of say 10% is OK...any big drop usually indicates weak/failing HV capacitors.

 Over what period of time does this happen?.....a couple of minutes??..20-30 minutes??

There could be other causes...but these are the most common problems.

I doubt your microphone is the problem.

73 Joe
WB7UQU
On Thursday, May 8, 2014 8:35 AM, "lpleach@..." <lpleach@...> wrote:

>Hi all,
>   I have a fairly new-to-me 520S. After getting my D-104 wired properly, I was transmitting an excellent signal and happy as can be. Then one day my contact was having a hard time hearing me. I saw on the meter that the strength was down to about 20%. I thought the mic was giving me trouble again. The next day, output was nothing at all.
>
>   I got a new mic and got the same. I got an MC-50 yesterday and again the same thing. I have a copy of the manual and have (several times) run the "Normal Transceiver Calibration" in section 4.4 of the manual. It's running beautifully other than this issue. Help!
>
>
>Larry
>
>KF5YZZ
>
>
>
>

48750. Re: [TS-520_820_530_830] 520S - transmission faded out to nothing

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-08 16:01:13 UTC
From: Mike W5RKL
Topic: 48748 Message: 48750

I agree with Joe.

When you tune up in TUNE mode, watch the ALC peak indication. If the peak ALC indication starts to drop off back towards zero after a few seconds then the driver tube is weak and should be replaced.

73
Mike W5RKL

On 5/8/2014 10:51 AM, Joseph Stiles wrote:
> Larry,
>
> Very possible you have a failing 12by7a driver or failing final
> amplifier tube(s).
>
> Tune up rig as usual(dummy load please). Check plate current (Ip)
> during transmit(CW-key down) Falling plate current (Ip) usually
> indicates failing final tube(s).
>
> Falling drive level usually indicates failing driver tube.
>
> Check your HV(high voltage) using the front panel meter...a small
> drop of say
> 10% is OK...any big drop usually indicates weak/failing HV capacitors.
>
> Over what period of time does this happen?.....a couple of
> minutes??..20-30 minutes??
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> There could be other causes...but these are the most common problems.
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> I doubt your microphone is the problem.
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>
>
> 73 Joe
> WB7UQU
> On Thursday, May 8, 2014 8:35 AM, "lpleach@..."
> <lpleach@...> wrote:
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> Hi all,
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> properly, I was transmitting an excellent signal and happy as can
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> saw on the meter that the strength was down to about 20%. I
> thought the mic was giving me trouble again. The next day, output
> was nothing at all.

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> again the same thing. I have a copy of the manual and have
> (several times) run the "Normal Transceiver Calibration" in
> section 4.4 of the manual. It's running beautifully other than
> this issue. Help!
>
> Larry
> KF5YZZ
>
>
>

48751. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-08 15:57:22 UTC
From: <leonardmiller579@...>
Topic: 48679 Message: 48751

Terry, I just checked the drive control. It's almost dead 1200 on 3.5 with the VFO set at 225.

Leonard/WV3P

48752. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-08 21:30:55 UTC
From: <wagstw46@...>
Topic: 48679 Message: 48752

How hard would it be to put the KW Hybrid on the Gap?

A 1/4 wave trap vertical isnt going to be the best antenna, but should work reasonable well depending on how mounted and the radial system.

Is your 18AVT ground mounted or roof top mounted? Some folks mount on chain link fence.

What kind of radial system do you have?

Of course you are aware best to listen to 75/80 late evening.

With the Marker signal you describe on 80 and 160 and the good copy on 40 meters it is hard for me to believe you have a problem with the rig. My guess is that you would have approx 37 foot radials on 40 or shade longer depending on how you mounted it. If so, this probably accounts for the better performance on 40.

It has been years since I ran any verticals so I need to back away and let someone with more recent experience help you.

Terry K9TW

48753. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-08 21:36:02 UTC
From: <leonardmiller579@...>
Topic: 48679 Message: 48753

I can probably hook the rig up to the vertical, but I'm still confused as to why the rig puts out 4 watts into a 50 ohm dummy load? This might be a good way to see if I can duplicate the results on another antenna using my JFJ Versa Tuner V. I know for certain that tuner displays an accurate power out.

I'll let you know what my results were, and thank you for your help.

Leonard/WV3P

48754. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-09 00:10:50 UTC
From: <wagstw46@...>
Topic: 48679 Message: 48754

Rig putting out 4 watts has nothing to do with not hearing signals on 160 and 80. I thought Wes was working off the forum with you on the transmit problem? I hate to get involved. I will give couple of suggestions and then must move on.

Normally pretty easy to trouble shoot low RF output if you have the correct test gear. Lacking that can end up being a lot of guessing.

I think someone else already suggested that you confirm you have good RF drive level on all bands. I agree with that as easy to do and requires no test gear. You do that as follows:

1. Heaters on, SG switch off, CW mode, CAR Level Pot 1200, Drive Control at 1200, VFO at 200, Meter to ALC.

2. Flip to Send and peak the ALC indication with the Drive Control. If the meter goes FSD (full scale deflection) against the peg simply back the CAR level pot down until the meter indicates at 350ma. If you cannot get FSD at 1200 on CAR Level then advance it until you do. If you cannot get FSD then just peak it at whatever max level you can and record the amount of Car level it takes to do that. None of the scales mean anything. Just use the MA scale to report your findings.

3. Leave rig keyed for a couple of seconds to see if the full scale ALC indication slowly drifts down scale. It should not. If it does getting close to time to install another 12BY7A.

Repeat this test on each band and let the Driver tube rest for awhile between bands. The Driver tube runs Class A and plate current is close to max rating for the tube.

Make a chart that records the ALC indication vs the Car Level Pot position for each band and report back to us. Typically a good rig wont have to advance the CAR level pot beyond 1000 to 1100 with exception of perhaps 10 meters where may have to advance it to 1300 or so.

If you can get close to full scale ALC indication on all bands with CAR pot no more than approx 1200 then you know your Driver stage is good, you have proper operating -dc bias voltage at the control grids of the 6146 finals, and you have sufficient RF drive voltage swing at the control grids to overcome this dc offset and cause ua grid current to flow on positive peaks of the rf drive envelope which is what produces the ALC indication as the ALC amp reduces the ALC bus voltage and causes the meter to drive up scale.

If you have good RF drive to the Finals and low RF output then it is time to try another set of known good Final tubes. If RF output still low then it is time to take DC voltage readings on the Finals at the tube sockets.Screen grid voltage is very important.

If DC voltages are all to spec then need look inside the PA cage at blocking/coupling cap, RF bypass cap at base of RF Plate choke, and the RF plate choke (discolored windings).

In my shop I can measure the RF voltages across the Tank capacitor, across the Tank inductor, and across the Load capacitor. You wont be able to do that.

You may be able to do a good visual inspection inside the PA cage. Need to make sure that the couplers are not slipping on the Plate Tune and Plate Load caps (as I previously mentioned). Need to make sure the Plate Load capacitor shaft isnt slipping axially and shorting out movable and fixed plates. Need to look at the ANT TR Relay and clean the NO contacts.

All work inside the PA cage including visual inspection must be done with rig unplugged and the HV capacitors discharged.

This is enough to keep you busy.

Terry K9TW

48755. Re: [TS-520_820_530_830] 520S - transmission faded out to nothing

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-09 00:59:16 UTC
From: <lpleach@...>
Topic: 48748 Message: 48755

This was over several days.
Good on day one.
On day 2, only about 20% power (consistently)
On day 3, no output at all. Totally flatlined.
I'll need some time to get a dummy load.

Larry
KF5YZZ

48756. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-09 03:29:33 UTC
From: <leonardmiller579@...>
Topic: 48679 Message: 48756

You're right Terry. This will give me plenty to chew on for awhile. Wes and I had been working on the transmit problem, but he graciously put a message up on the board for input. We're kind of at an road block at the moment and were looking for someone to give their advice.

I thank you for taking the time. The thing that puzzles me is the lack of power on the low bands, but not the higher frequency end. I'll check those things you mentioned.

Leonard/WV3P

48757. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-09 17:56:59 UTC
From: wagstw46@...
Topic: 48679 Message: 48757

This is why you need to do the RF drive test with the SG switch off.

You need to know if it is an RF drive problem. If you have low RF drive on those same bands then almost always bad bandswitch contacts as you are not switching in the Mixer and Drive parallel resonant circuits. Or switching them in with high series resistance.

Once you do this Drive test using your panel Meter and find low ALC indication the next step would be to use an RF probe and VTVM and run the TX Level Diagram to see where losing it at.

If your RF drive is good on all bands then can move on to the PA cage inspection items that I provided. If you have good RF output on the higher bands and not on the lower bands then that rules out a bad Ant TR relay contact.

This is a systematic process and at some point requires a modest amount of test gear.

Terry K9TW

48758. Re: [TS-520_820_530_830] TS-820 with no output / no high voltage

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-09 18:34:49 UTC
From: sm5utt@...
Topic: 48705 Message: 48758

Hello,

Thanks for the advice, but the resistors meassured 5.5 ohms and the choke seems OK. I have also meassured the 800V tap from the power transformer to over 750V AC (upper limit on my multimeter) and aproximately 450V DC over each high voltage capacitor, so the fault is somewhere between the capacitors and the tubes. Since I only have a low res schematic it's hard to follow all the traces, where should I continue my meassurements to find the fault?

73 de SM5UTT / Marcus

48759. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-09 19:54:09 UTC
From: leonardmiller579@...
Topic: 48679 Message: 48759

Terry, my test equipment consists of a 100 Mhz Scope, various multimeters (one digital, and one analog), an rf probe that I built from a kit, and a signal generator. I still have a ways to go learning some of the test equipment. I just put the probe together and haven't had a chance to really use it. I have used the scope during the alignment process, but the frequency counter I have (Startek) has a lot to be desired. Still I probably have enough to perform some basic tests, or at least enough to get this radio working again. Fingers crossed.

I also re-capped the radio, but after talking to Wes he told me that's generally not a good idea as it can cause more problems then it fixes. I've been fortunate in that area. Everything seems to be ok. I really took my time doing it, and made sure the polarities were correct. It took me a few days to complete the task.

The radio is WAY better then it was when I first got it. The receiver didn't work at all when I first got it. I've had the VFO out 2 times so far so I could really get inside it to clean it properly. Now all the birdies have went away and I can actually hear stations. At this point I'm going to assume the receiver is working 100% and the only problem that I have with that is in the antenna. I'll address that later.

I've learned so much in the last two months working on the radio. I work on the radio when I have the time, but now I really would like to get it off the bench. Still, if there's one thing I've learned it's to be patient. I absolutely will do everything you mentioned and will ask questions when I'm not sure of something.

Terry, I'll get back to you once I've completed all the tests you mentioned. Thank you again for your input.

Leonard/WV3P

48760. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-09 21:23:47 UTC
From: leonardmiller579@...
Topic: 48679 Message: 48760

I forgot one thing... 350 ma was acheived with the carrier at 3. No further testing on any other bands was done.

Leonard/WV3P

48761. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-09 21:37:47 UTC
From: leonardmiller579@...
Topic: 48679 Message: 48761

Terry, I'm ashamed to admit it. I thought I had the SG switch in the OFF position. It seems that I made a HUGE mistake. Now I've just made myself a whole lot more work. I unplugged the radio, and drained the caps (twice) and looked for something that's apparently smoked, or bulging. I can't smell anything. I guess I'm going to get schooled on this one.

Now I'm mad at myself for not double checking!!

Leonard/WV3P

48762. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-10 12:19:30 UTC
From: wagstw46@...
Topic: 48679 Message: 48762

I am apparently missing something here in your responses as I dont know what you are talking about.

I assume you are saying you were trying to do the Driver stage testing with the SG switch in the ON position. Is that correct?

If so with long and repeated key down periods (maybe some of it in an off resonance state) you could have hurt a Final tube. 6146 would be the most likely weak link in this scenario.

Also check the 5 ohm cathode meter shunt resistance to chassis ground. They can take a significant over current for a very long time. If you have no 900vdc at top of the large RF plate choke look at the small VHF plate choke at the base.

Be extremely careful measuring the 900vdc at top of the plate choke. Might want to connect your meter with rig down powered and then get hands away from the meter and test prods and clip leads and turn the rig on. Make sure the clip leads laying on the bench are in the clear.

If you now have no ALC indication in Tune mode with SG off and previously had it I would try another 12BY7A driver tube. As I previously stated you need three things for ALC indication:
1. Cathode emission from the 6146 finals (heaters on and good cathode resistors)
2. Operating bias at the control grids of the finals (approx -60vdc)
3. RF drive voltage swing at the control grids of the finals from plate circuit of the Driver Tube (approx 46rms volts or approx 130v P-P)

Again be very careful working in the PA cage, around the HV rectifier board, and the HV filter caps. Cant make any mistakes here as could be your last one. Must go slow and attention to detail.

Terry K9TW

48763. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-10 13:49:44 UTC
From: wagstw46@...
Topic: 48679 Message: 48763

Yes you have the test gear you need. I assume you have the 10x probes to go with the scope?

When time comes I can help you use it to take necessary measurements.

Some prefer to use the O-scope to take the RF voltage measurements and some prefer the meter and rf probe.

Here are some typical (approx) TX rf voltage levels @14.200 mhz

1. TIF input to the Transmit Mixer on the RF board measured at TP-2 = 0.25mv or 250mv rms or 700mv P-P

2. Transmit Mixer output on RF board measured at MD or TP-1 = 2.0volts rms or 5.8volts P-P

3. Plate of the Driver tube measured at DP or DRV = 58.0volts rms or 164volts P-P

CAUTION: Must use a 2 or 3 diode RF probe if not using RF millivolt meter or O-scope to take this measurement. This level of RF voltage will exceed the piv rating of the typical single diode probe and destroy the diode.

4. Control grids of the 6146 final tubes measured at tube socket Pin 5 = 46.0rms rf volts or 130 volts P-P.

Note: All readings taken after loading to approx 100 watts output into dummy load and then turning off SG switch.

Note: TIF signal is not band switch dependent and not your problem. Cannot measure it with your meter and RF probe must use your O-scope.

Terry K9TW

48764. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-10 13:13:02 UTC
From: leonardmiller579@...
Topic: 48679 Message: 48764

Terry, I was trying to check the ALC as per your last email. I had everything set up properly except for the SG switch. It was supposed to be OFF, and I mistakenly had it ON.

You wanted to put the meter in ALC and adjust the carrier to get a reading of 350 ma on the meter with the transmitter keyed. To make a long story short, after the rig was keyed for probably no more then 30 seconds or so the rig made some clicking sounds (relay?) and the lights flicked off/on about 3 times. After that the rig went dead. I immediately shut the rig off (too late), and went to the back to check the fuse. It was then that I discovered the SG switch was on, and not off like I thought. The fuse checked good, but now the the radio is completely dead. No power at all. I looked the boards to see if something looked burned and could see nothing. I also tried to use my nose which isn't the best to see if I could smell something, but again I couldn't detect anything out of the ordinary.

I hope this is a little clearer? Instead of finding the reason for low power on some of the bands, it looks like I'm now going to have to find the radio is dead before I can go on. To say that I was upset at my mistake is probably an understatement.

Just a final thought. I really didn't have the rig keyed for long. Maybe 20 to 30 seconds before the lights started blinking on and off. Actually the key down was probably closer to 20 seconds. I'm not sure if this is useful information or not?

Leonard/WV3P

48765. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-10 16:11:15 UTC
From: wagstw46@...
Topic: 48679 Message: 48765

Hopefully you have not lost the power transformer. If it suffers shorted windings I would think it would blow the 6 amp primary fuse, but perhaps not if an open winding.

I would check for a bad ON OFF switch and bad wiring at the 120vac line cord power plug connector at rear of rig. Of course must have a good 120 vac house receptacle.

Easy to measure the voltages at the power transformer to see if you have 120vac to the primary winding when you turn the front panel Power switch to the ON position.

Just be careful taking transformer voltages.

The voltages on the transformer secondary windings are labeled with the name of the supply and not the actual ac voltages that you will read. For example the " 800 " winding will read approx 340vac.

Too soon to panic. Could be something simple.

Remember I wasnt telling you that you should read 350ma of plate current. Meter has to be in ALC position and I was trying to tell you that you should be able to peak the Drive Control to get full scale deflection on the meter. That can be 350ma, or 10 on red HV scale or 40dB on S-meter scale. Just seeing if Driver stage is capable of FSD with approx no more than 1200 of Car Level on all bands. Make sure you read my previous step by step instructions and understand them and follow them literally.

Terry K9TW

48766. Phone Patch PC 1 mod (?)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-12 03:39:39 UTC
From: yioutta_99@...
Topic: 48766 Message: 48766

Hello all again,

I recently picked up a PC 1 phone patch. The price was right and there is a chance that i might be doing some phone patching for a friend who will be maritime mobile.

After giving this unit a closer look, there is a mod that was done. There is an RCA jack mounted on the rear with a resistive voltage divider. 2 k from center pin, then an 8K to ground. from the divider, it goes down to a terminal board with a few caps and two 2 k resistors in series (I haven't dissected this part to close yet). This mod all leads to the mic connection.

I am guessing that this might have been used to connect a sound card for the digital modes. has anybody seen this mod before?

Also, my phone company is Comcast, so my phone is via internet is that a problem using an old fashion phone patch?

Thanks Guys
Steve N7LWF
520s, and 530s

48767. Re: Is my logic correct??

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-12 15:09:10 UTC
From: ronaldferrell@...
Topic: 39479 Message: 48767

Greetings to All,

Back in October 2012 I began a thread with message #39480. I received many good tips from a number of members but I had to set aside the repair of my TS-830S. The week I planned to put off the project lasted a little longer. K9TW, Terry gave me a good lead and over this past weekend I got back to the project and found L40 on the RF board is open. I also followed Terry's advise and got a new RL1. I also just ordered a new set of sprockets so this will be more than just a small overhaul. I will get back with the group just as soon as I receive all the parts.

Thanks again for all the great advice. I am learning a lot about this radio.

Ron - KI4TI

48768. Good Source for spare parts

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-12 16:38:20 UTC
From: Andrew Murrey
Topic: 48768 Message: 48768

I've received a Kenwood TS-520S. It seems to be working great. Is there a place the group recommends to pick up a spare set of tubes, and if there are any other spare parts I should keep on hand?

Andrew, N9AWM

48769. Re: Good Source for spare parts

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-12 18:08:18 UTC
From: Mark Gilger
Topic: 48768 Message: 48769

Here's a list of places to go for hybrid radio parts or service:
http://wb4hfn.com/KENWOOD/Articles/Kenwood_Service_Parts_REV5.pdf

You can pick up 6146W's from:
http://www.surplussales.com/Tubes-Sock-Acc/100/TubesListed_100up_4.html

Or:
http://www.rfparts.com/catalogsearch/result/?q=6146

73's,
Mark, WB0IQK

48770. Re: [TS-520_820_530_830] Good Source for spare parts

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-12 18:15:21 UTC
From: Joseph Stiles
Topic: 48768 Message: 48770

Andrew,

Welcome, and nice to hear that your 520S is working great. There are numerous places to obtaina "spare set of tubes." RF Parts, Antique Electronic Supply...and of course EBAY, just to name a few. Bewary however...when a seller states: "Tested fine in my "golly-gee-whiz" model tester." Testers will indicate shorts...etc...but will not tell you that the tube(s) in question will
function in the real RF environment. See if they have a return policy for non-functional tubes.
The best way is to test the 12BY7A & the 6146/A/B/W final amplifier tubes in actual operation.
Keep at least one spare of a KNOWN GOOD driver, and(preferably) two final amplifier tubes(one set) You do not need a "matched pair."

The 520(S) series is getting rather old...as we all are...hihi.....two of the most common problemsare broken tuning cores...and dirty/corroded parts...have you inspected the tuning cores under bright light and magnification yet?
If not do so...and before you decide to align the rig...come back and get some pointers about
those tuning cores..BEFORE you break them!

73 Joe
WB7UQU
On Monday, May 12, 2014 10:29 AM, "Andrew Murrey andy@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>I've received a Kenwood TS-520S. It seems to be working great. Is there a place the group recommends to pick up a spare set of tubes, and if there are any other spare parts I should keep on hand?
>
>
>Andrew, N9AWM
>
>
>

48771. Re: [TS-520_820_530_830] Re: Is my logic correct??

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-12 23:32:05 UTC
From: Ron
Topic: 39479 Message: 48771

Ron , Terry is very knowledgeable about these kenwood hybrid radios also does great work on them

Ron KK4PWF

On May 12, 2014, at 10:09 AM, "ronaldferrell@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
> Greetings to All,
>
> Back in October 2012 I began a thread with message #39480. I received many good tips from a number of members but I had to set aside the repair of my TS-830S. The week I planned to put off the project lasted a little longer. K9TW, Terry gave me a good lead and over this past weekend I got back to the project and found L40 on the RF board is open. I also followed Terry's advise and got a new RL1. I also just ordered a new set of sprockets so this will be more than just a small overhaul. I will get back with the group just as soon as I receive all the parts.
>
> Thanks again for all the great advice. I am learning a lot about this radio.
>
> Ron - KI4TI
>
>
>

48772. Re: [TS-520_820_530_830] Good Source for spare parts

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-13 10:47:58 UTC
From: Peter Carr
Topic: 48768 Message: 48772

I highly recommend K4EAA. You can Google for his web page. He has small parts like knobs and also stuff like high voltage caps and detailed instruction on their installation. My TS-520 is alive and well because of him!
73,
Pete WW3O

On Monday, May 12, 2014 7:18 PM, "Joseph Stiles stilesjoseph@yahoo.com [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Andrew,

Welcome, and nice to hear that your 520S is working great. There are numerous places to obtaina "spare set of tubes." RF Parts, Antique Electronic Supply...and of course EBAY, just to name a few. Bewary however...when a seller states: "Tested fine in my "golly-gee-whiz" model tester." Testers will indicate shorts...etc...but will not tell you that the tube(s) in question will
function in the real RF environment. See if they have a return policy for non-functional tubes.
The best way is to test the 12BY7A & the 6146/A/B/W final amplifier tubes in actual operation.
Keep at least one spare of a KNOWN GOOD driver, and(preferably) two final amplifier tubes(one set) You do not need a "matched pair."

The 520(S) series is getting rather old...as we all are...hihi.....two of the most common problemsare broken tuning cores...and dirty/corroded parts...have you inspected the tuning cores under bright light and magnification yet?
If not do so...and before you decide to align the rig...come back and get some pointers about
those tuning cores..BEFORE you break them!

73 Joe
WB7UQU
On Monday, May 12, 2014 10:29 AM, "Andrew Murrey andy@indylinux.org [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>I've received a Kenwood TS-520S. It seems to be working great. Is there a place the group recommends to pick up a spare set of tubes, and if there are any other spare parts I should keep on hand?
>
>
>Andrew, N9AWM
>
>

48773. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-13 23:08:17 UTC
From: leonardmiller579@...
Topic: 48679 Message: 48773

Hello Terry, I found out why the radio went dead. It was a fuse on my power strip. I found that working on radio's is not a good thing when you're tired. I won't make that mistake twice.

Now onto the rf drive test you asked me to perform. I checked each band with the SG switch in the OFF position, mode set to CW, heater ON, VFO set to 200, and the meter set to ALC. A dummy load hooked up to the output side of a wattmeter was used for all the tests.

First I peaked the radio with my wattmeter. I could actually read a small amount of power, or at least see the needle move. I then peaked the drive control with the meter set in the ALC position. I adjusted the Carrier Level Pot until I got a full scale reading and marked down those readings in my notebook.

The readings are as follows:

160 - 2
80 - 3
40 - 4
20 - 4
15 - 5
28.200 - 9 **
28.700 - 9 **

I wasn't sure what you wanted me to do with 10 meters so I gave you readings with the bandswitch in the lower and higher part of the 10 meter band. In both cases I left the VFO at 200.

Next I powered the rig down and bled down the caps with my chcken stick (twice). I tried to see if anything looked burned or out of place. I also unplugged the radio. I like living! I couldn't see anything that looked burned or discolored.

I'm guessing the next steps are going to be testing of the final section? If so, I will be "VERY" careful.

I'm going to get out my Amateur Radio Handbook and try to study up a little on tubes. I have not (at this) point changed the finals, but the ones that are currently in the radio were taken from a radio that was working. If fact they are almost brand new. I also checked them on my tube tester. I know that doesn't necessarily mean anything, but it's another test and I figured it couldn't hurt. The tube tester is an old Hickok. I noticed that the ALC values seemed to climb as I went higher in frequency. I'm guessing that the 10 meter band shouldn't be that high? I'll wait to hear what you have to say about that.

Leonard/WV3P

48774. Re: [TS-520_820_530_830] TS-820 with no output / no high voltage

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-13 19:17:38 UTC
From: sm5utt@...
Topic: 48705 Message: 48774

Hello group,

Thanks for a high-res schematic mailed to me off-list (thank you Mike W5RKL!) I have followed the high-voltage from the main transformer to the HV unit X43-1110, where something is happening. There are three 680kOhm resistors in series (R2, R3 and R4) which I am unable to meassure (probably due to the high-voltage stored in the capacitors), but at the HV terminal I meassure only 45V when the radio is powered up, which I presume is incorrect. There is aproximately 890V on the 800 terminal going in to the board. Is it possible that one or more of the 680kOhm resistors have let out the magic smoke? There is no apparent optical sign on any of them. They seem to be too big for 1/2W resistors so I guess they are 1W resistors?

Which capacitor should I short to eliminate any high voltage and ease meassurements? Is it enough with the two high voltage capacitors? I was thinking of using a resistor of some size (10kOhm?) not to harm the capacitors. Is that a good thought or am I coward?? :-)

Thanks for any advice!

73 de SM5UTT / Marcus

48775. Re: *** SPAM ***Re: [TS-520_820_530_830] TS-820 with no output / no high voltage

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-14 02:30:45 UTC
From: W5RKL
Topic: 48705 Message: 48775

Marcus,

What steps did you take that tells you the 3 680K 1/2 watt and the 1
100K 1/2 watt series resistors on the HV Unit board have smoked?

73
Mike W5RKL

On 5/13/2014 2:17 PM, sm5utt@... [TS-520_820_530_830] wrote:
>
> Hello group,
>
>
> Thanks for a high-res schematic mailed to me off-list (thank you Mike
> W5RKL!) I have followed the high-voltage from the main transformer to
> the HV unit X43-1110, where something is happening. There are three
> 680kOhm resistors in series (R2, R3 and R4) which I am unable to
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> resistors so I guess they are 1W resistors?
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> meassurements? Is it enough with the two high voltage capacitors? I
> was thinking of using a resistor of some size (10kOhm?) not to harm
> the capacitors. Is that a good thought or am I coward?? :-)
>
> Thanks for any advice!
>
> 73 de SM5UTT / Marcus
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

48776. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-14 02:37:25 UTC
From: wagstw46@...
Topic: 48679 Message: 48776

Leonard:

If I understand your chart it appears you are saying that you got full scale ALC deflection on each noted band with the Car Level Pot at the positions you have logged on your chart. It is typical to have to use a lot of Car Level on 10 meters. Your position numbers on the other bands look good.

If that is so it is telling you that you have three necessary parameters for good RF drive:

1. You have cathode emission from the 6146 final tubes
2. You have proper operating dc bias voltage on the control grids when you flip to Send
3. You have proper RF drive level from the plate circuit of the 12BY7A tube to the 6146 control grids to overcome the bias offset and cause grid current to flow and to bias on the ALC amplifier transistor to reduce the ALC bus voltage and cause the meter to drive up scale.

This means you do not have an RF drive problem that is causing very low RF output. Problem has to be in Plate circuit of the Final tubes and down stream from there. First need to confirm spec dc voltages at the Finals.

1. No or very low screen grid voltage. I would measure at Pin 3 of the 6146 final tube sockets. (must have SG switch on).
2. No Anode voltage. Just because you read approx 900vdc on your panel meter in HV position does not mean you have 900vdc at the 6146 tube plate caps (top of RF plate choke in PA cage).

Also, are you absolutely certain that your external wattmeter is good?

Can you measure the RF output voltage across the your dummy load resistor?

If you had no external wattmeter you would load your rig by alternately adjusting the Plate Tune and Plate Load capacitors for maximum Relative Power by using the RF detector position of your panel meter without exceeding approx 200 ma Ip. That meter indication proves you have RF voltage at Pi-network output (across the Plate Loading capacitor) but does not prove you have voltage across the dummy load.

To prove you have RF output power need to measure the RF voltage across your 50 ohm dummy load. You can do that with your O-scope. At 100 watts output power you should see approx 71rms volts drop across the dummy load resistor or approx 200v P-P on the scope.

If not easy to measure across the dummy load resistor can measure inside the PA cage at the bare tinned bus wire soldered to center pin of the SO-239 connector. Must be careful doing this as in close proximity to 900 vdc.

Need to use a 10X probe and make sure not exceeding max AC rating of the scope probe. Most standard 10X probes are rated at max of 300 vac.

If you have no RF voltage across the dummy load resistor you may have a bad contact on your Ant TR Relay. Would pull it and clean the contacts with copy paper wetted with Deoxit.

Summary:

Verify you have spec Anode and Screen Grid voltage for the 6146 Finals. If you do then measure RF voltage across the dummy load resistor. At 100 watts output should be approx 200v P-P. If no RF voltage or very low RF voltage across the dummy load resistor then pull the Ant TR relay and clean the contacts. Can also swap the two relays.

Terry K9TW

48777. Re: *** SPAM ***Re: [TS-520_820_530_830] TS-820 with no output / no high voltage

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-14 06:00:47 UTC
From: sm5utt@...
Topic: 48705 Message: 48777

Mike,

On the HV unit I meassured the voltage at the 800 terminal to about 890V DC and the voltage at the HV terminal to about 45V DC, and didn't check the schematic enough. When I double check now I realise that part of the HV unit is a voltage divider only to meassure the high voltage, not to distribute it or anything else. My error (I blame it on the late hour last night... ;-), thanks for the heads up! I simply have to continue my search.

73 de SM5UTT / Marcus

48778. Re: *** SPAM ***Re: [TS-520_820_530_830] TS-820 with no output / no high voltage

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-14 14:21:29 UTC
From: wagstw46@...
Topic: 48705 Message: 48778

This is a great Ohms law example for series parallel resistors.

In RX mode the divider is approx 2 meg ohm divided by 100k ohm or a 20 to 1 ratio. With 900vdc applied across it then 900vdc /20 = 45 vdc. That is why you are reading approx 45 volts. The first time I saw this I about had a heart attack. How can they apply 45vdc to the 500ua meter movement! I came very close to changing out all the divider resistors thinking there was a failure!

Your panel meter is a 500 ua movement with internal R of 800 ohms and FSD of approx 0.40 vdc.

When you flip to Send with the meter selector switch in the HV position the RL-1 aux relay applies your meter movement directly across the 100k divider resistor. Now you have 100k resistor in parallel with 800 ohms. So your divider ratio has now been changed to approx 2meg ohms divided by 800 ohms or approx 2500 to 1. So that 900vdc applied across the divdider is now 900/2500 = 0.36vdc. That is a level that the meter will like and deflect close to the 900 vdc graduation.

You can prove this by monitoring the HV voltage and watch the 45 vdc drop to approx 0.35vdc when you flip to Send with the meter in the HV position.

A real KW Hybrid practical example of Mikes Basic DC Theory videos.

Of course the voltages you will measure will vary based on the tolerance of the four divider resistors and how they have aged over the years. You can replace them all with precision resistors, but kind of silly as the panel meter is calibrated in 50 vdc divisions and about best resolution is 25 vdc. I service a few where I find 1% resistors have been installed. Doesnt hurt but not necessary.

Meter never intended to be a precision voltmeter.

Terry K9TW

48779. Re: *** SPAM ***Re: [TS-520_820_530_830] TS-820 with no output / no high voltage

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-14 14:58:07 UTC
From: wagstw46@...
Topic: 48705 Message: 48779

I am sorry the values I cited are for the TS530/830 panel meter. Will be very similar and same principle for the TS-820. Panel meter is slightly different int R, but you get the idea.

Of course as you noted the HV terminal and its associated divider string has nothing to do with no Anode voltage at the plate caps of your 6146 final tubes. A very easy thing to trouble shoot. Just have to be careful measuring the voltage.

Terry K9TW

48780. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-14 20:52:26 UTC
From: leonardmiller579@...
Topic: 48679 Message: 48780

Terry, I measured 1000 VDC at the top of the RF Plate Choke with the SG switch ON.

I measured 271 VDC on pin 3 of the 6146 finals.

I haven't gone any farther with testing today. I'm letting it sit till tomorrow.

To asked if I knew the watt meter was good. Evidently the answer is a big "NO"!!

Here are the RF readings P-P as measure on my scope.

160 - 200V
80 - 200V
40 - 200V
20 - 200V
15 - 180V
10 - 190V

Looks like there's nothing wrong with the rig?? If so, I think I may have a bad wattmeter. Wouldn't that be great?

I won't celebrate until I hear from you first, (Fingers & Toes crossed)

Leonard/WV3P

48781. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-14 23:35:43 UTC
From: wagstw46@...
Topic: 48679 Message: 48781

Leonard

Appears you took the 6146 anode and screen grid voltages in RX mode only. That is OK but need to take then in TX as well.

It appears you are saying that the P-P rf voltage readings taken with O-scope are across the dummy load resistor?

If that is true, then you have RF output of approx 100 watts being dissipated across that 50 ohm resistor and you have an issue with your in line wattmeter.

I would load up into your antenna using the RF relative power position of your panel meter (dont exceed approx 200ma) and try to check in to a local net and get a signal report. ECARS @ 7255 might be a good one to try.

I have loading instructions on my website K9TW.com, but if you literally follow the instructions in your Operating Manual you will be fine.

Terry K9TW

48782. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-14 23:39:32 UTC
From: wagstw46@...
Topic: 48679 Message: 48782

I guess if you have approx 200 rf volts P-P across dummy load on all bands you already know how to load your KW hybrid!

If you have trouble making a contact I would give a listen for you. I will be available all day tomorrow Thursday. Going to Dayton Friday and Saturday and next available on Sunday.

Let me know if you want to attempt a sked.

Terry K9TW

48783. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-15 01:50:59 UTC
From: leonardmiller579@...
Topic: 48679 Message: 48783

Yes, I came to the same conclusion Terry. Seems I'll have to learn how to trouble shoot a watt meter. I took the rf readings as you suggested by attaching my probe to the center pin (inside the chassis) on the so-239 jack. I was "VERY" careful doing that since anything inside that RF section scares the heck out of me. I did get nailed about 10 years ago when I accidentally brushed my arm over the tops of the tubes in the final of an old Swan 250C. I never want to do that again!!! It blew me right off the bench, and luckily I'm here to tell the story.

I will take readings tomorrow off pin (3) of the finals in both tx & rx, and report back to you. I feel that I'm very close to buttoning this thing up after approximately 3 months work.

Leonard/WV3P

48784. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-15 01:57:34 UTC
From: leonardmiller579@...
Topic: 48679 Message: 48784

You're a lucky man! I really want to make that trip sometime, and yes I'd like to do a sked with you. I'll wait till your back from Dayton. We can try to set something up then.

Enjoy Dayton!!

Leonard/WV3P

48785. DAYTON FORUM PRESENTATION AVAILABLE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-15 03:21:50 UTC
From: Mark Gilger
Topic: 48785 Message: 48785

For those not able to make it to the Dayton Hamvention, I've posted the presentation in the articles section of my web site:

http://wb4hfn.com/KENWOOD/Kenwood-Articles.htm

For those that plan on being there, here is the information.

Room #2, Sunday, 10:30 Eastern

Hope to see you there.

73's,
Mark, WB0IQK

48786. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-15 13:27:35 UTC
From: wagstw46@...
Topic: 48679 Message: 48786

Leonard:

OK to measure the rf voltage at the SO-239 conn inside the PA cage, but realize that does not mean you have any RF at your wattmeter or dummy load or antenna.

If you have an open coax jumper or open anywhere in the antenna system downstream of the SO-239 you will still read high RF voltage at the output of the rig and will still see RF relative power on the panel meter and will see IP readings and the rig acting like it is loading. It will load differently with the dip not occuring at the white band specific locations, but it will make you think you are loading. The risk with loading in to a very high impedance (very high VSWR) is that the RF voltage will be high and could arc over the Plate load capacitor plates.

With nothing connected to the SO-239 the load presented to the final tubes is essentially the resistive load that the RF detector diode resistor divider network of approx 11k ohms presents.

So ultimate proof of RF output power is reading RF voltage across the dummy load resistor or in old days would use a Thermocouple RF ammeter and mount it in nice box with SO-239 on each end and place in series in the feedline. Then would load for max RF current. At 100 watts output that would be approx 1.4 rf amps. (1.4 x 1.4 x 50 = 100 watts). Only issue was the meter response was a little slow as the RF current has to heat a thermocouple which in turn produces a mv output voltage and dc current to drive the meter movement. This was all before watt meters became common place.

Terry K9TW

48787. New member,First post

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-15 21:42:24 UTC
From: beargyrils@...
Topic: 48787 Message: 48787

I'm in need of a cheap HF rig.
Being in the hospital required me to sell off all but a couple QRP rigs.
I'm looking for a TS 520,TS 530-S or SE or TS 530.
Most on my ham communications is CW.
I owned many of these older rigs back in the mid 80's.
So if you have a spar or just want to sell one please E mail me direct at
beargyrils@... (mailto:beargyrils@...) , or call (609)-638-1629
Thanks BOB AF2Q

48788. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-16 20:06:51 UTC
From: leonardmiller579@...
Topic: 48679 Message: 48788

I didn't have a chance to measure the output across the dummy load yet, but I did have some time to take the measurements on pin #3 of the 6146 tubes on transmit & recieve. I checked both tubes during the tests. They were both the same, so I'll only give you one set of voltages for both the tx & rx on each band.

The tests were done running into a 50 ohm dummy load, and each band was peaked on tune first, and then cw using the wattmeter as a general indicator since it seems fine for that.

The first reading will be recieve, followed by the transmit voltage. VFO set for 200 on the dial for all tests.

160 583/489
80 582/428
40 575/490
20 582/492
15 583/491
10 583/550 *** I only tested the first portion of 10 meters. (28.000 - 28.600)

I just found that the little plastic pointer on the plate is cracked and doesn't really read properly. I'll have to try to find one somewhere. It's spinning on the shaft.

Hope you're enjoying Dayton!!!!!

Leonard/WV3P

48789. Re: [TS-520_820_530_830] 520S - transmission faded out to nothing

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-16 21:00:10 UTC
From: lpleach@...
Topic: 48748 Message: 48789

OK, so I have the dummy load and checked out what you asked about.
Plate current during transmit is fairly steady at 60. Of course it takes a minute or so to warm up.
HV drop is not even 10% I don't think. Very small drop.
I did have to drop the RF Volt down some in the Plate and Load Tuning. The amount was reading at full scale and instructions say that it should be at 2/3 scale.
Anything else to check?

Larry
KF5YZZ

48790. Re: [TS-520_820_530_830] 520S - transmission faded out to nothing

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-17 01:58:14 UTC
From: beargyrils@...
Topic: 48748 Message: 48790

Larry,that pi section can give a lot of problems. Of all the rigs I had the plate current always seemed rock solid with just s slight lower reading at 10 meters. Can you call me at 609. -638-1629?Bob AF2Q
Sent from my BlackBerry® by Boost Mobile

-----Original Message-----
From: "lpleach@yahoo.com [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com>
Sender: TS-520_820_530_830@yahoogroups.com
Date: 16 May 2014 14:00:10
To: <TS-520_820_530_830@yahoogroups.com>
Reply-To: TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830] 520S - transmission faded out to nothing

OK, so I have the dummy load and checked out what you asked about.
Plate current during transmit is fairly steady at 60. Of course it takes a minute or so to warm up.
HV drop is not even 10% I don't think. Very small drop.
I did have to drop the RF Volt down some in the Plate and Load Tuning. The amount was reading at full scale and instructions say that it should be at 2/3 scale.
Anything else to check?

Larry
KF5YZZ

48791. Re: [TS-520_820_530_830] 520S - transmission faded out to nothing

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-17 19:44:08 UTC
From: Bob AF2Q
Topic: 48748 Message: 48791

Larry,I don't have your E mail so can we keep this off list? I'm not receiving anything from the list except when you mail me through it so later I'll be unsubscribing since you have my number and E mail. Bob AF2Q
Wilderness Elite (SAR) Wilderness Survival and SAR Training & Pet Rescue

48792. Re: TS-830-s VFO shaft binding

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-18 02:44:03 UTC
From: glene77is@...
Topic: 47621 Message: 48792

Terry K9TW,

Thanks to you, Terry, K9TW, for the concise advice.

A wealth of information,

Good to have a group like this , where the techies hang out,
with helpful experiences and advice.

Finally got around to pulling out the VFO box.
The main shaft was binding on the #2 drive gear.
Looking from the Knob side,
this gear set is on the back wall of the gear box.
The base of the main shaft has a bushing on that back wall,
and a drive gear engaging #2.

It appears that the problem was that earlier in this 830's history
someone had put lube on the gears, and it had picked up dust etc.
and became lodged in the teeth .
These gears are designed to maintain a tight mesh.

Using a tiny screwdriver, I was able to gently scrape the grease & dirt off,
I administered partial drops of very thin 'electronic' oil, with a toothpick.
I spun the knob gently, for several minutes,
only as far and as easy as the shaft/gears allowed.

Seems to be freed up now.
In the next few days, I'll put it back on line,
and crank it up for working CW.

Surely, somebody is wondering why "CW" with a Cadillac rig ?
Well, my first station was K4KKQ, 1958, and we all did not do SSB back then.
At the Naval Air Station Norfolk, VA ,
we had several CW ops from WWII who could work CW at 65 wpm !
SSB was the new mode at that time.
I do have two mikes for this Kenwood, stored nicely in the attic.
I still enjoy doing things like when I was young
... still using my 1940 Bug.

BTW, just worked, confirm, Germany, on 1 Watt, LongWire, 20M.

Thanks to Terry, K9TW, for the concise advice.

Glen Ellis, KK4LPG.

48793. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-18 10:55:20 UTC
From: wagstw46@...
Topic: 48679 Message: 48793

Leonard

Suggest you re-measure the 500vdc plus on the screen grids of your finals?

What did you use to measure this voltage?

Should be approx 260vdc.

Terry K9TW

48794. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-18 14:38:37 UTC
From: leonardmiller579@...
Topic: 48679 Message: 48794

I used my digital voltmeter. I'll re-check those readings. Hope you had a good time at Dayton?

Leonard/WV3P

48795. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-18 15:03:31 UTC
From: wagstw46@...
Topic: 48679 Message: 48795

COLD, WET, WINDY!

Other than that is was fun!

Yes I dont know how you can have 500vdc screen grid voltage?

Only place in radio that approaches that is the center of the two series HV filter caps.

Terry K9TW

48796. TS-520 Power Out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-18 23:38:52 UTC
From: chastizer4@...
Topic: 48796 Message: 48796

I am trying to help a fellow out with his TS-520 which is having very low output issues on all bands.

I get 60mA of idling current with meter on IP, HV shows 900 V, ALC deflects nothing at all. I've tried both CW and SSB. Drive and Carrier make no change. I swapped the drive tube out with what is supposed to be a new one with no change. Based on suggestions I tried listening on a second radio at a given frequency and into a dummy load the 520 is transmitting a nice tone while trying to tune. Inline power meter shows maybe 1 watt out. I could sure use some suggestions on where to look next. FD is soon upon us and I know he's itching to get on the air.

Thanks!
Charlie - AC6ZX

48797. Re: [TS-520_820_530_830] 520S - transmission faded out to nothing

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-19 02:53:23 UTC
From: Joseph Stiles
Topic: 48748 Message: 48797

Larry,

OK, you need to do a couple of more things..OK?

With rig warmed up, SG switch on, Power & Heater switches ON

MODE SWITCH to "TUNE"
Meter switch to "ALC"
"CAR" control turned up to around the 9-11 o'clock posit
SEND switch to "SEND"...and adjust the "DRIVE CONTROL"
for max reading...if too high...back off on the "CAR" ...watch needle...does it fall back towards zero or remain steady? If it falls off...usually indicates bad 12BY7A driver tube.

Finish tuning up for max power output...keeping in mind not to let the Ip get to high
say 225mA or so

With MODE SWITCH in "CW," and meter switch still in "RF" position. put send switch to send...note the relative power indication...keep rig keyed for about 5-8 seconds and see if the RF reading falls off....if so...usually bad final amplifier tube(s)

Your HV(high voltage) should be around 750VDC or more, with key down in CW.

Have you been able to recreate the slow power drop-off? It would be interesting to see what you show for HV, Ip....when this happens. I also suspect that you may have failing HV capacitors too.

73 Joe
WB7UQU
On Saturday, May 17, 2014 1:09 PM, "'Bob AF2Q' beargyrils@aol.com [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Larry,I don't have your E mail so can we keep this off list? I'm not receiving anything from the list except when you mail me through it so later I'll be unsubscribing since you have my number and E mail. Bob AF2Q
>Wilderness Elite (SAR) Wilderness Survival and SAR Training & Pet Rescue
>
>
>
>

48798. Re: TS-520 Power Out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-19 03:01:48 UTC
From: w5rkl@...
Topic: 48796 Message: 48798

Have you tried taking voltage measurements at the driver and final tubes. Use the 520 schematic and service manual as a guide. The manual has voltage charts to compare you actual voltage measurements with.

When measuring the HV at the Rectifier Unit, measure the actual HV to the final tubes on the "800" terminal. The HV UNIT board has 2 terminals, one labeled "HV" which is the HV meter switch connection and the 800 terminal which is the actual final tube HV that's fed to the Final Unit and the plates of the 6146s. You can measure the HV at the 6146 plate caps as well which should be the same as it is on the Rectifier Unit's 800 terminal.

The HV applied to the 6146 plates is present all the time as long as the main power switch is turned ON and the 520 is plugged into a 120VAC outlet so be careful!!! Use caution when measuring any voltages especially the HV.

73
Mike W5RKL

48799. Re: [TS-520_820_530_830] TS-520 Power Out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-19 03:11:46 UTC
From: Joseph Stiles
Topic: 48796 Message: 48799

Charlie,

Has this rig been owned by the current owner for awhile..or a "new" acquisition?

You make no mention if it receives...but check the small round 9 pin socket on the rear to see if it has the "shorting plug," or a jumper wire between pins 8 and 9.

SG SWITCH ON??
can you see a glow from the driver and final tubes when the "heater" switch is turned on??
are the finals good?? a tubes tester will not tell you if they will work properly in the RF transmit environment.
The no ALC in tune is a common problem. Mostly it's resistors 5 & 6 (56k each) on the rectifier board.

You'll need to do a voltage check

73 Joe
WB7UQU
On Sunday, May 18, 2014 7:09 PM, "chastizer4@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
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>
>I am trying to help a fellow out with his TS-520 which is having very low output issues on all bands.
>
>I get 60mA of idling current with meter on IP, HV shows 900 V, ALC deflects nothing at all. I've tried both CW and SSB. Drive and Carrier make no change. I swapped the drive tube out with what is supposed to be a new one with no change. Based on suggestions I tried listening on a second radio at a given frequency and into a dummy load the 520 is transmitting a nice tone while trying to tune. Inline power meter shows maybe 1 watt out. I could sure use some suggestions on where to look next. FD is soon upon us and I know he's itching to get on the air.
>
>
>Thanks!
>Charlie - AC6ZX
>
>
>

48800. Re: [TS-520_820_530_830] TS-520 Power Out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-19 03:37:48 UTC
From: Joseph Stiles
Topic: 48796 Message: 48800

Charlie,

A slight correction...Resistors 5 & 6 (56k each) are on the HIGH VOLTAGE BOARD X43-1110-00(it's a small board next to the rectifier board)...notthe "rectifier board" as I stated stated prior...sorry

73 Joe
WB7UQU
On Sunday, May 18, 2014 8:14 PM, "Joseph Stiles stilesjoseph@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Charlie,
>
>
>Has this rig been owned by the current owner for awhile..or a "new" acquisition?
>
>
>You make no mention if it receives...but check the small round 9 pin socket on the
>rear to see if it has the "shorting plug," or a jumper wire between pins 8 and 9.
>
>
> SG SWITCH ON??
> can you see a glow from the driver and final tubes when the "heater" switch is turned on??
> are the finals good?? a tubes tester will not tell you if they will work properly in the RF transmit environment.
> The no ALC in tune is a common problem. Mostly it's resistors 5 & 6 (56k each) on the rectifier board.
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> You'll need to do a voltage check
>
>
>
>
>73 Joe
>WB7UQU
>On Sunday, May 18, 2014 7:09 PM, "chastizer4@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:
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>>I am trying to help a fellow out with his TS-520 which is having very low output issues on all bands.
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 I could sure use some suggestions on where to look next. FD is soon upon us and I know he's itching to get on the air.
>>
>>
>>Thanks!
>>Charlie - AC6ZX
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48801. TS-530S pointer

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-20 02:04:38 UTC
From: molsyb@...
Topic: 48801 Message: 48801

Hello,

Name is Brian. I've been a proud owner of a TS-530SP since '91 and have been reading all the posts here on a daily basis for the last three years or so.

That being said, does anyone know where I can get my hands on a replacement for the pointer portion of the PLATE control? No big deal; have lived without it for a few years now, but thought I might as well finally ask the group if they know of one that might be available.

Thanks!
Brian KB5PLA

48802. Re: [TS-520_820_530_830] TS-530S pointer

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-20 05:24:50 UTC
From: Joseph Stiles
Topic: 48801 Message: 48802

Brian,

Check with Bob Mansker-ke5ftf....he has a good stash of spare parts for most KW hybrids.

Good stuff and a fair price. His email is : ke5ftf at mail dot com (shorten this to standard format)

73 Joe
WB7UQU
On Monday, May 19, 2014 10:19 PM, "molsyb@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Hello,
>
>
>Name is Brian. I've been a proud owner of a TS-530SP since '91 and have been reading all the posts here on a daily basis for the last three years or so.
>
>
>That being said, does anyone know where I can get my hands on a replacement for the pointer portion of the PLATE control? No big deal; have lived without it for a few years now, but thought I might as well finally ask the group if they know of one that might be available.
>
>
>Thanks!
>Brian KB5PLA
>
>
>

48803. RE: [TS-520_820_530_830] TS-530S pointer

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-20 13:32:48 UTC
From: fpath fpath
Topic: 48801 Message: 48803

Brian,

Once you get a new pointer, make sure you put some form of lubricant on the shaft, this way if you have to remove it, it wont break.

73s

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: TS-520_820_530_830@yahoogroups.com
Date: Mon, 19 May 2014 22:24:50 -0700
Subject: Re: [TS-520_820_530_830] TS-530S pointer

Brian,

Check with Bob Mansker-ke5ftf....he has a good stash of spare parts for most KW hybrids.

Good stuff and a fair price. His email is : ke5ftf at mail dot com (shorten this to standard format)

73 Joe
WB7UQU

On Monday, May 19, 2014 10:19 PM, "molsyb@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Hello,

Name is Brian. I've been a proud owner of a TS-530SP since '91 and have been reading all the posts here on a daily basis for the last three years or so.

That being said, does anyone know where I can get my hands on a replacement for the pointer portion of the PLATE control? No big deal; have lived without it for a few years now, but thought I might as well finally ask the group if they know of one that might be available.

Thanks!
Brian KB5PLA

48804. Re: TS-520 Power Out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-20 06:06:44 UTC
From: chastizer4@...
Topic: 48796 Message: 48804

Thanks Joe, This rig is new to the owner. It's rather dingy compared to most pics I've seen posted. Receive seems to work well with decent S-meter movement, SG switch on, 56K resistors showed 122 and 262 volts so I think they're ok. All 3 tubes have a nice orange glow in the dark. And jumper on rear is in place and making good contact. Charlie - AC6ZX

48805. Re: TS-520 Power Out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-20 05:59:07 UTC
From: chastizer4@...
Topic: 48796 Message: 48805

Hi Mike, Thanks for the reply. 800 terminal and the 6146 plates are reading 963V. I did the tube voltage checks with the following results: (Pin: R/T) 1: 0/.35 2: 0/0 (VTVM necessary?) 3: 263/247 4: 0/.35 5: -94/-55 6: 0/.35 7: 0/0 8: 0/0 Driver voltages are gonna be a bit more tricky. I'll give those a shot tomorrow eve. And, yes I'm well aware of the high voltages. Thanks for the reminder. Charlie - AC6ZX

48806. Re: TS-530S pointer

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-20 15:35:37 UTC
From: molsyb@...
Topic: 48801 Message: 48806

Thanks for the info Joe, much appreciated!

And thanks for the suggestion Dave. I did indeed break it while I had the rig apart for a cleaning and HV cap replacement.

Thanks again,
Brian KB5PLA

48807. Re: [TS-520_820_530_830] Re: TS-520 Power Out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-20 18:18:58 UTC
From: Joseph Stiles
Topic: 48796 Message: 48807

Charlie,

  Your voltage measurements are within nominal specs...except for your notation regarding PIN 2. The voltage here is AC volts. It is the "heater" circuit...it should be about 12.5VAC or so on Pin 2 of the front 6146 and about 6.5VAC or so on Pin 2 of the rear 6146

73 Joe
WB7UQU
On Tuesday, May 20, 2014 8:10 AM, "chastizer4@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Hi Mike,
Thanks for the reply. 800 terminal and the 6146 plates are reading 963V. I did the tube voltage checks with the following results:
(Pin: R/T)
1: 0/.35
2: 0/0 (VTVM necessary?)
3: 263/247
4: 0/.35
5: -94/-55
6: 0/.35
7: 0/0
8: 0/0 Driver voltages are gonna be a bit more tricky. I'll give those a shot tomorrow eve. And, yes I'm well aware of the high voltages. Thanks for the reminder. Charlie - AC6ZX
>
>
>

48808. Re: [TS-520_820_530_830] 520S - transmission faded out to nothing

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-20 19:10:13 UTC
From: lpleach@...
Topic: 48748 Message: 48808

Joe,
Thanks for the input.
With the drive control adjustment, the reading holds steady, no fading. If the Drive Control is adjusted just a few degrees either way, it drops to zero. But holds steady at max power.
The HV reading is steady at 800V.

Keep in mind that it dropped out over several days and has remained that way. So I cannot recreate it. It never recovered.

48809. Re: [TS-520_820_530_830] 520S - transmission faded out to nothing

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-20 19:13:34 UTC
From: lpleach@...
Topic: 48748 Message: 48809

Joe,
Thanks for the input.
With the Drive control, it holds steady. If you adjust it a few degrees either direction it does drop to zero, but I suspect that is normal.
The HV is 800V and steady as well.

Keep in mind that this drop off occurred over several days and has remained that way. I cannot recreate it as it has never recovered.

Larry
KF5YZZ

48810. TS 820S Plate Tuning

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-20 20:25:50 UTC
From: wmarvin2@...
Topic: 48810 Message: 48810

Hi Group I'm finishing restoring my TS820S. When it came to TX tune-up I'm having problem(s) with the Plate adjustment. The plate dip settings are all over the place and not even tracking close to the Plate markings i.e.
7.0 MHz band Plate dip to the far left nearly off scale.. Every Band is far off the Plate Markings.....all else is normal. Ip is 60 mA, Drive and Loading are fine also. Tuned Ip is 225mA, HV is 750VDC.

Am I missing something? Is their a tuning adjustment to make the plate dip track the panel band ranges??

Interesting note. I opened the final cage to look for problems top & bottom a fould tatty looking 6146's. Some
ding-dong installed two plain 6146's with a date code of 1959, 1961....why??? I in stalled two 6146W's instead.

Also the plate variable cap is meshed at the 12 o'clock position when the plate knob if at 9 o'clock setting.

My 820's is really clean and works great on receive.....next the TX.

Best Dx

Bill KB9IV

48811. Re: [TS-520_820_530_830] TS 820S Plate Tuning

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-20 20:50:08 UTC
From: John Davidson
Topic: 48810 Message: 48811

My plate tuning knob goes from CCW end 8 O'clock to max CW to about 5 O'clock. The plates are fully meshed at the far CCW position and un-meshed at the max CW position, and that corresponds somewhat with lowest to highest bands.
Your tuning knob may be loose , slipping on the shaft and needs repositioning and tightening of the set screws. My plate dip was not always EXACTLY on the marking on the face of the rig !
I hope you start tuning at the minimum loading setting (fully meshed loading cap).
Good luck, I have had my TS520 for over 40 years I believe, since new, and it was just retired this year.
73, K8JD

On Tuesday, May 20, 2014 4:30 PM, "wmarvin2@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Hi Group I'm finishing restoring my TS820S. When it came to TX tune-up I'm having problem(s) with the Plate adjustment. The plate dip settings are all over the place and not even tracking close to the Plate markings i.e.
7.0 MHz band Plate dip to the far left nearly off scale.. Every Band is far off the Plate Markings.....all else is normal. Ip is 60 mA, Drive and Loading are fine also. Tuned Ip is 225mA, HV is 750VDC.

Am I missing something? Is their a tuning adjustment to make the plate dip track the panel band ranges??

Interesting note. I opened the final cage to look for problems top & bottom a fould tatty looking 6146's. Some
ding-dong installed two plain 6146's with a date code of 1959, 1961....why??? I in stalled two 6146W's instead.

Also the plate variable cap is meshed at the 12 o'clock position when the plate knob if at 9 o'clock setting.

My 820's is really clean and works great on receive.....next the TX.

Best Dx

Bill KB9IV

48812. Re: [TS-520_820_530_830] TS 820S Plate Tuning

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-20 21:16:31 UTC
From: Joseph Stiles
Topic: 48810 Message: 48812

Bill,

Sounds like the shaft from the front panel to the plate air variable has slipped.

With the plates of the plate air variable FULLY MESHED...your pointer should point to around the 9 o'clock position....50 % meshed(kinda looks like a "pacman") pointer to about 12 o'clock...and fully unmeshed...the pointer is about 3 o'clock. I take it..and hope.. that you have beenusing a dummy load for your tests.

Also, don't forget to neutralize those finals. The 6146W's are fine..I don't need to open a can of worms..discussing the pros/cons of the various models of the 6146 series of tubes. That's
been covered already. There's a good article in the "FILES" section regarding this topic.

73 Joe
WB7UQU
On Tuesday, May 20, 2014 1:50 PM, "John Davidson k8jd@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>My plate tuning knob goes from CCW end 8 O'clock to max CW to about 5 O'clock. The plates are fully meshed at the far CCW position and un-meshed at the max CW position, and that corresponds somewhat with lowest to highest bands.
>Your tuning knob may be loose , slipping on the shaft and needs repositioning and tightening of the set screws. My plate dip was not always EXACTLY on the marking on the face of the rig !
>I hope you start tuning at the minimum loading setting (fully meshed loading cap).
>Good luck, I have had my TS520 for over 40 years I believe, since new, and it was just retired this year.
>73, K8JD
>
>
>On Tuesday, May 20, 2014 4:30 PM, "wmarvin2@... [TS-520_820_530_830]" <TS-520_820_530_830@...m> wrote:
>
>
>
>
>Hi Group I'm finishing restoring my TS820S. When it came to TX tune-up I'm having problem(s) with the Plate adjustment. The plate dip settings are all over the place and not even tracking close to the Plate markings i.e.
>7.0 MHz band Plate dip to the far left nearly off scale.. Every Band is far off the Plate Markings.....all else is normal. Ip is 60 mA, Drive and Loading are fine also. Tuned Ip is 225mA, HV is 750VDC.

>
>Am I missing something? Is their a tuning adjustment to make the plate dip track the panel band ranges??
>
>Interesting note. I opened the final cage to look for problems top & bottom a fould tatty looking 6146's. Some
>ding-dong installed two plain 6146's with a date code of 1959, 1961....why??? I in stalled two 6146W's instead.
>
>Also the plate variable cap is meshed at the 12 o'clock position when the plate knob if at 9 o'clock setting.
>
>My 820's is really clean and works great on receive.....next the TX.
>
>Best Dx
>
>Bill KB9IV
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48813. TS-520S low power output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-21 01:38:20 UTC
From: jbdkz@...
Topic: 48813 Message: 48813

I have went through section Calibration, sections 4.4 through 4.13, in the TS-520SE Instruction Manual. All readings appear normal as in the book. If I set the mode to CW and transmit for 3 seconds into the dummy load built into my MFJ-949C it reads only 5 watts. I also notice very low power on the MFJ meter during normal SSB operation.

Can you give me some tips on how to troubleshoot this issue?

Thanks,

John

48814. Re: TS 820S Plate Tuning

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-21 01:23:31 UTC
From: wmarvin2@...
Topic: 48810 Message: 48814

Many Thanks John & Joe. You hit the nail on the head. The Plate tuning shaft shaft was not adjusted and didn't track.....Now it does!!

Thanks a million

Best Dx

Bill KB9IV

48815. Re: [TS-520_820_530_830] TS-520S low power output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-21 12:50:35 UTC
From: Mike W5RKL
Topic: 48813 Message: 48815

John,

When you say

"very low power on the MFJ meter during normal SSB operation"

are you saying the MFJ-949C's watt meter is showing between 20 and 30 watts on voice peaks when transmitting on sideband (USB or LSB)?

Set the TS-520SE meter switch to IP. What is the meter indicating with the 5 watts you say is shown on your MFJ-949C watt meter in CW mode?

If you adjust the CAR control clockwise in CW mode does the 5 watts indicated on the MFJ-949C watt meter "increase"?

Are you using the MFJ-949C internal 50 ohm dummy load?

The MFJ-949C internal 50 ohm dummy load has a maximum constant carrier time of 2 minutes (stated in the 949C manual under the paragraph titled "ANTENNA SELECTOR").

73
Mike W5RKL

On 5/20/2014 8:38 PM, jbdkz@... [TS-520_820_530_830] wrote:
>
> I have went through section Calibration, sections 4.4 through 4.13, in
> the TS-520SE Instruction Manual. All readings appear normal as in the
> book. If I set the mode to CW and transmit for 3 seconds into the
> dummy load built into my MFJ-949C it reads only 5 watts. I also notice
> very low power on the MFJ meter during normal SSB operation.
>
>
> Can you give me some tips on how to troubleshoot this issue?
>
>
> Thanks,
>
>
> John
>
>

48816. Re: [TS-520_820_530_830] Re: TS 820S Plate Tuning

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-21 15:58:54 UTC
From: Joseph Stiles
Topic: 48810 Message: 48816

Bill,

  glad to help out...that's what we are all here for...to help and learn!

73 Joe
WB7UQU
On Wednesday, May 21, 2014 5:29 AM, "wmarvin2@... [TS-520_820_530_830]"
<TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Many Thanks John & Joe. You hit the nail on the head. The Plate tuning shaft shaft was
not adjusted and didn't track.....Now it does!!
>
>Thanks a million
>
>Best Dx
>
>Bill KB9IV
>
>
>
>

48817. Re: Is my logic correct??

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-21 18:35:22 UTC
From: ronaldferrell@...
Topic: 39479 Message: 48817

Greetings Again,

I replaced L-40 on the RF board and have an RF signal on test points TP-3 and TP-4. There is no RF on TP-2.

On Q-3 and Q-4 I have DC voltages. I also have RF on the gates but no RF output.

Is there a source for the SK125's? Is there a substitution?

Thanks in advance for any help!

Ron - KI4TI

48818. Re: TS-520 Power Out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-21 17:00:44 UTC
From: chastizer4@...
Topic: 48796 Message: 48818

Thanks for clarifying, Joe. I rechecked pin 2 and got the expected AC voltages. The 12BY7A had the following: 1: 0.3/4, 2: -38/1.4, 5: 13AC, 7: 346/314, 8: 263/232, rest: 0. Learning as I go here. It looks like Q10 (RF board) is a player here so I wanted to check it also. For safety sake I opted to check test points. DX: -95/-56, ALC: 3.1/3.1, FG: -95/-56. Seems ok? Do these tests tell us about tube conditions? It often seems in reading the early posts that tubes are swapped when all else appears to be ok. I'd love to get this baby going so I can go find one for myself. These hybrids are really cool! Thank you, Charlie - AC6ZX

48819. Re: Is my logic correct??

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-21 19:35:11 UTC
From: wagstw46@...
Topic: 39479 Message: 48819

Ron:

I think you are a little confused about how the receiver works.

Do you mean L41 Ant step up transformer? If so, how do you know you installed a good one? Did you bench test it before installing it? If not, you will have to test it in circuit. Easy to inject at TP-1 and measure at the wiper of S1-2.

TP-3 is not off air signal path. TP-3 is your VCO signal which is the LO (local oscillator) signal for your TX and RX Mixers. Should be approx 1.0rms rf volts and at the proper band specific frequency noted in the service manual for PLL alignment.

TP-2 is your 8.830mhz RIF output and will be a very low level signal. If you are trying to measure off air signal level it will probably be on order of 5uv or less. How are you trying to measure it? It is very rare for Q3/Q4 to be bad.

I assume you have no receive? Is that correct? If so, how are you troubleshooting?

Are you using the Marker signal as your RF Sig Gen or using a RF Sig Gen and injecting and measuring along the signal path?

If you have no receive and nothing out the speaker can do a split approach to pretty quickly find where fault is at. Have you determined that the IF and Audio chains are working? If so can then focus on the path from the SO-239 to the RF board and on the RF board.

Can inject 8.830mhz at TP-2 and see if rig comes alive. Inject -53dBm (500uv) and should see approx S9 on S-meter and good loud tone in the speaker. If not, then move RF Sig Gen to the IF board and inject at Conn 6. You do this because common to have bad molex connectors in the path.

If rig comes alive when you inject 8.830mhz at TP-2 then you know the problem is on the RF board or in the path from the SO-239 to the RF board. Have to inject at SO-239 and work way toward the RF board or work from the RF board back to the SO-239. So if you inject at the SO-239 and measure RF at TP-1 then you know Ant TR relay contacts, Xvter DIN switch, RF attenuator switch, and Molex Conn 3 is good.

If you lost L41 due to ESD or accidental TX RF you may have also lost Q1 RF amp.

Terry K9TW

48820. Re: [TS-520_820_530_830] Re: TS-520 Power Out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-21 19:32:24 UTC
From: Joseph Stiles
Topic: 48796 Message: 48820

Charlie,

Going to have to pull out some of my notes and check those against your readings. Might be
a day or so. I know how much ya want to get this rig going...so... IF ANYONE else that has been
following...feel free to jump on in.

73 Joe
WB7UQU
On Wednesday, May 21, 2014 12:18 PM, "chastizer4@... [TS-520_820_530_830]"
<TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Thanks for clarifying, Joe. I rechecked pin 2 and got the expected AC voltages. The 12BY7A had the following: 1: 0.3/4, 2: -38/1.4, 5: 13AC, 7: 346/314, 8: 263/232, rest: 0. Learning as I go here. It looks like Q10 (RF board) is a player here so I wanted to check it also. For safety sake I opted to check test points. DX: -95/-56, ALC: 3.1/3.1, FG: -95/-56. Seems ok? Do these tests tell us about tube conditions? It often seems in reading the early posts that tubes are swapped when all else appears to be ok. I'd love to get this baby going so I can go find one for myself. These hybrids are really cool! Thank you,
Charlie - AC6ZX
>
>
>

48821. Re: [TS-520_820_530_830] TS-520S low power output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-21 19:44:33 UTC
From: jbdkz@...
Topic: 48813 Message: 48821

Thank you Mike for your reply. My answers are in red below:

John,

When you say

"very low power on the MFJ meter during normal SSB operation"

are you saying the MFJ-949C's watt meter is showing between 20 and 30 watts on voice peaks when transmitting on sideband (USB or LSB)?

Answer: On the MFJ-949C, I have the button set to 30Watts and Dummy Load. Mode on my TS-520S is set to CW. If I flip to transmit the Forward Wattage on the MFJ reads "50" which I believe translates to 5 Watts on the 0 to 300Watt scale.

Set the TS-520SE meter switch to IP. What is the meter indicating with the 5 watts you say is shown on your MFJ-949C watt meter in CW mode?

Answer: Will try this tonight.

If you adjust the CAR control clockwise in CW mode does the 5 watts indicated on the MFJ-949C watt meter "increase"?

Answer: Will try this tonight.

Are you using the MFJ-949C internal 50 ohm dummy load?

Answer: Yes

The MFJ-949C internal 50 ohm dummy load has a maximum constant carrier time of 2 minutes (stated in the 949C manual under the paragraph titled "ANTENNA SELECTOR").

Answer: Yes I am aware and have only did a few 2 second CW bursts into the Dummy Load.

John,

You need to make sure you sign your messages with an approved message signature! If you are a licensed ham then an acceptable message signature is your "name" followed by your "call sign". If you do not want to include your call sign then your first name. If you are not a ham then your first name.

Every member, regardless whether they have been a member for years, a group Moderator, group co-owner, or a new member, must add an approved message signature at the end of each message they post! This requirement was stated in the auto messages sent to you when your application for membership to the group was approved.

73
Mike W5RKL

48822. New T-530s owner

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-21 20:54:53 UTC
From: john
Topic: 48822 Message: 48822

Hi all.
Last night I purchased my first HF rig. I got myself a Trio T-530s with matching Kenwood ATU.(AT-230)
It did come with owners and service manual as well.
The radio came with no microphone, which is a round 4 pin type, so I will be on the hunt for one of them
Also the radio has a mod done for what appears to be for 28Mhz.

So, on the to-do list is

Read and understand the manual (and find the min power settings) as a foundation licence holder I am limited to the power outputs
Get used to the dials and setup options for the radio
Obtain a suitable antenna, might just be a long wire for now for RX only, but will see what happens.

Overall I am please with the radio and price I paid for it.

The hard part now is finding a location for it on my desk!

So for now, 73s

John
M6JPE
UK

48823. Re: Is my logic correct??

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-21 22:20:11 UTC
From: ronaldferrell@...
Topic: 39479 Message: 48823

Terry,

Thanks for the information you supplied. I have yet to go beyond the RF board. I've had a bit of confusion here but also a lot off Ah-haa moments.

Originally the problem was no VCO signal at TP-3 but the signal was on the coax cable from the PLL unit. I tested the pi-filter on the VCO input on the RF board and found that L-40 was open.

Now that I have VCO distributed on the board I followed the signal through the TX mixer and have a signal TP-4.

Regarding the RX mixer I have DC voltages at Q-3 & 4 and VCO signal on the gates but no signal input into T-2 or on TP-2. Would I not have a signal on the drains of Q-3 & 4 just as I have on the TX mixer semiconductors?

I will need to take some time to study the IF and AF boards.

Thanks again,

Ron - KI4TI

48824. 1

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-22 01:42:23 UTC
From: wagstw46@...
Topic: 39479 Message: 48824

Ron

OK very unusual to find L40 open. I thought you were confused about L41 a much more common RF board failure. A good find on your part.

TP-4 is the TX Mixer (Q6/Q7) output to the control grid of the 12BY7A Driver tube. You should have approx 2.0 to 3.0 rms RF volts at TP-4 in TX mode. TP-4 is normally measured after loading to 100 watts out and then flip Screen Grid switch off to take the TX Level Diagram readings.

Because you read 2 rf volts in TX mode at the output of the TX Mixer does not mean you should expect to read 2 volts at the output of the RIF mixer or anything close to that level. You are comparing apples and oranges. TX RF drive levels and RX RF signal levels are very different animals. The 8.830 mhz RIF signal will be in the uv (microvolt range). What you read at TP-4 in TX mode has nothing to do with receive and can make no comparison between the two mixers other than approx same level of VCO LO signal level for proper mixing action.

Only other thing in common with TP-4 is the Mixer tuned circuits are shared between TX and RX modes.

It sounds like you are saying that you have proper DGS dc voltages at Q3/Q4 FETs in Rx and Tx modes. If so that is good and it means they are being biased on and not likely they are bad. If shorted would likely see Drain voltage on the Source leads.

I will say again that the 8.830mhz rf signal levels at TP-2 are very low and average ham cannot measure it. Again how are you trying to measure the 8.830mhz RIF level at TP-2 and what would you expect it to be? If you are trying to use a RF probe and DMM or VTVM you wont read any rf signal level. Way below the barrier voltage of typical germanium signal diode.

You need an O-scope or RF millivolt meter to measure any rf signal level at TP-2. With rig on dummy load should read approx 5.8mv rms and with Marker turned on approx 6.0mv rms. Almost all of that level is VCO LO leakage and not the 8.830mhz RIF signal. Been awhile since I measured it (have to use the Low pass filter option on your scope if it has one) and the actual RIF is in the 300uv rms range.

Lacking above test gear one other thing you can do. If you have background noise in the speaker then you can take a metal tool and tap it on TP-2 and noise should drop away and S-meter should go up scale. Dont leave tool or your finger on TP-2 very long just tap it on and off. If noise drops and S-meter goes up scale it means your IF and AF chains are working and you can concentrate on the front end.

I had a lull on the bench as I had to order a part to restore transmit function to a rig so thought I would stop in and see if could quickly help someone.

I am sure others here can help you. Just go at it in systematic way. Since you found bad L40 it appears you have some knowledge, experience,and test gear so I am going back to the bench.

73s
Terry K9TW

48825. Tube Manuals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-22 14:21:58 UTC
From: Mike W5RKL
Topic: 48825 Message: 48825

For those interested I have added receiving and transmitting tube manuals and other vacuum tube manuals and documents to my website (w5rkl.com). The manuals and documents are free to download. The following link will take you to the manual section. Click on the link below and when the page comes up, simply scroll down to the bottom of the page.

http://w5rkl.com/manuals-and-documents/

Thenewbies who's vacuum tube theory knowledge is significantly lacking or non-existent or more seasoned hams who just want to brush up on their vacuum tube theory, I recommend downloading the RCA small receiving tube manual and study the theory sections starting on page 3. The tube manual contains a wealth of vacuum tube theory and tube specifications that is a must for anyone servicing vacuum tube circuits.

73
Mike W5RKL

73
Mike W5RKL

48826. Hakko 808 de-soldering gun

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-22 14:47:42 UTC
From: Jan Servaites
Topic: 48826 Message: 48826

I just picked up a new Hakko 808 de-soldering gun, on the recommendation from Dick Housden W0NTA. I have to tell you, this gun is awesome. The parts just fall off the board using the new gun.
They might be hard to find these 808s because Hakko has a new model out to replace it. But, I found that MCM Electronics has them and on sale for $199. The purchase includes spare parts and a case to store everything. It's a very good deal. Also to mention, MCM is carrying Vishay ceramic caps at prices lower than Mouser. It's a good selection too, from about 250v to about 6kv voltage range.
I just wanted to give you guys a heads-up on the Hakko, if you're thinking about buy one.
Jan N8CBX

48827. Re: Hakko 808 de-soldering gun

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-22 15:10:47 UTC
From: wagstw46@...
Topic: 48826 Message: 48827

Dont know how I ever functioned with solder wick!

Hakko is really a must when removing ICs. Makes childs play of it. Also, less likely to lift a pad in the Hybrids, but still can if not adjusted properly. Must make sure tip is touching the component lead as well as the pad.

Wish we had more time to chat at Dayton. Left early on Saturday as could not move inside and tired of the cold and wet. Too soon to think about next year but right now not likely to attend.

A long way to drive and a lot of expense money to buy the Rigol. Bought a Mini-circuits combiner and a Heath IM-18 VTVM for $5.00 on a whim. Of course what price can I put on seeing you, Dick, and Mark and getting to eat at 45 year old Marions!

73s
Terry K9TW

48828. Re: [TS-520_820_530_830] TS-520S low power output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-22 16:58:48 UTC
From: jbdkz@...
Topic: 48813 Message: 48828

Thank you for the tip on proper signature, I joined over a year ago an don't often post.

With regard to the following questions:

Set the TS-520SE meter switch to IP. What is the meter indicating with the 5 watts you say is shown on your MFJ-949C watt meter in CW mode?

Answer: IP (Plate Current) is around 100ma

If you adjust the CAR control clockwise in CW mode does the 5 watts indicated on the MFJ-949C watt meter "increase"?

Answer: Yes! once turned clockwise in CW mode the watt meter on the MFJ increased to about 75 Watts. I imagine this is RMS power. What should the output wattage be for a correctly working TS-520SE in CW mode?

Thanks,

John
KD8SCX

48829. Re: [TS-520_820_530_830] TS-520S low power output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-22 18:13:07 UTC
From: Mike W5RKL
Topic: 48813 Message: 48829

John,

I could be wrong but from your responses, it appears your TS-520S alignment of the RF Unit coil pack may need to be check and if necessary, a slight adjustment.

You can calculate the approximately DC input power and output power by performing the following simple math calculations.

Note the HV and IP indications with full output. Multiply the HV indicated on the meter by the IP indicated on the meter, this will give you the approximate "DC" input power in CW mode. For example, if the HV is 810VDC and the IP is 200ma then the approximate DC input power in CW mode is 162 watts (810 x .2 = 162). The typical efficiency of the Class AB1 final amplifier in the KW hybrids is between 55% and 60%. Therefore, assuming an efficiency percentage of 60%, the approximate power output in CW mode would be 97 watts which is normal for the 520SE. Naturally 55% will result in a lower power output, approximately 89 watts at 55%.

73
Mike W5RKL

On 5/22/2014 11:58 AM, jbdkz@... [TS-520_820_530_830] wrote:
>
> Thank you for the tip on proper signature, I joined over a year ago an
> don't often post.
>
> With regard to the following questions:
>
>
> Set the TS-520SE meter switch to IP. What is the meter indicating with
> the 5 watts you say is shown on your MFJ-949C watt meter in CW mode?
>
> Answer: IP (Plate Current) is around 100ma
>
> If you adjust the CAR control clockwise in CW mode does the 5 watts
> indicated on the MFJ-949C watt meter "increase"?
>
> Answer: Yes! once turned clockwise in CW mode the watt meter on the
> MFJ increased to about 75 Watts. I imagine this is RMS power. What
> should the output wattage be for a correctly working TS-520SE in CW mode?
>
> Thanks,
>
> John
> KD8SCX

>
>
>
>

48830. Re: [TS-520_820_530_830] Hakko 808 de-soldering gun

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-22 21:09:37 UTC
From: Jim Larsen
Topic: 48826 Message: 48830

The Hakko 808 really does work well. Excellent info can be found at
http://www.mmccs.com/mmarc/n0ss/hakko_808_notes.pdf

Jim, AL7FS

Jim Larsen, AL7FS
Anchorage Alaska

On Thu, May 22, 2014 at 6:47 AM, Jan Servaites
jservaites@...[TS-520_820_530_830]
<TS-520_820_530_830@yahoogroups.com> wrote:

>
>
> I just picked up a new Hakko 808 de-soldering gun, on the recommendation
> from Dick Housden W0NTA. I have to tell you, this gun is awesome. The parts
> just fall off the board using the new gun.
> They might be hard to find these 808s because Hakko has a new model out to
> replace it. But, I found that MCM Electronics has them and on sale for
> $199. The purchase includes spare parts and a case to store everything.
> It's a very good deal. Also to mention, MCM is carrying Vishay ceramic caps
> at prices lower than Mouser. It's a good selection too, from about 250v to
> about 6kv voltage range.
> I just wanted to give you guys a heads-up on the Hakko, if you're thinking
> about buy one.
> Jan N8CBX
>
>
>
>

48831. Re: [TS-520_820_530_830] Re: Hakko 808 de-soldering gun

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-22 23:54:55 UTC
From: Jan Servaites
Topic: 48826 Message: 48831

Terry,
That was a lot of fun to meet each other, thank you and everyone for coming to Dayton.
Jan N8CBX

>

48832. Re: TS-520 Power Out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-23 13:02:18 UTC
From: wallydoc@...
Topic: 48796 Message: 48832

Charlie: Sounds like your voltages are OK. If they are not tell me.
Can you check the RF signals, do you have a scope?
If your ALC is zero you probably are not getting any transmit signal out of the RF board.
If that is the case, it would behoove you to track the transmit signal.
Let me know.
Wally KC9INK

48833. Re: 1

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-23 15:30:43 UTC
From: ronaldferrell@...
Topic: 39479 Message: 48833

Terry,

I appreciate the time you are taking to explain the RF board to me. I did the "tap test" and I have no signal. I also do not have any background noise in the speaker. Definitely more problems than the L-40.

I do not have much of any test gear but will get some. In the meantime I have buttoned up the rig and will spend the next bit of time thoroughly studying the receiver along with reviewing all the information in the Handbook regarding various circuits.

I am sure I will have many questions and hope that if I cannot find the answers in previous I can post them here.

Thanks again to all,

Ron - KI4TI

48834. Re: [TS-520_820_530_830] Re: TS-520 Power Out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-23 17:46:13 UTC
From: Joseph Stiles
Topic: 48796 Message: 48834

Charlie,

I have not been able to find my notes on the 520 series driver voltages, but looking at the schematic of the 820/530/830 series...the voltages you show are within operational norms. Q-10 on the RF board...I believe is the ALC amplifier. If you have a good 520(s) service manual, I think nowwould be a good time to run voltage levels stated on Pg 44 of the service manual. Also, it'seasy to do...remove both relays and clean the relay contacts.

Have a safe Memorial Day weekend

73 Joe
WB7UQU
On Friday, May 23, 2014 6:02 AM, "wallydoc@... [TS-520_820_530_830]"
<TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Charlie:
>Sounds like your voltages are OK. If they are not tell me.
>Can you check the RF signals, do you have a scope?
>If your ALC is zero you probably are not getting any transmit signal out of the RF board.
>If that is the case, it would behoove you to track the transmit signal.
>Let me know.
>Wally KC9INK
>
>
>

48835. Re: Tube Manuals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-23 18:42:09 UTC
From: Jim Goldring
Topic: 48825 Message: 48835

Mike, thanks so much for the tube manuals & info!
73,
Jim, AK7R

48836. Re: [TS-520_820_530_830] Re: Tube Manuals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-23 19:33:10 UTC
From: Mike W5RKL
Topic: 48825 Message: 48836

You're welcome Jim, enjoy the manuals and documents.

73
Mike W5RKL

On 5/23/2014 1:42 PM, Jim Goldring jimgoldring@...
[TS-520_820_530_830] wrote:
>
> Mike, thanks so much for the tube manuals & info!
> 73,
> Jim, AK7R
>
>

48837. Re: [TS-520_820_530_830] Re: Tube Manuals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-23 19:55:12 UTC
From: Henry Stephan
Topic: 48825 Message: 48837

Hi Mike

Thank you very much for this. I have taken the liberty of passing these onto my fellow TS enthusiasts who are not members of this group.

Greatly appreciated.

Best 73

Henry de ZS6MC

> On 23 May 2014, at 9:33 PM, "Mike W5RKL w5rkl@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:
>
> You're welcome Jim, enjoy the manuals and documents.
>
> 73
> Mike W5RKL
>
>
>> On 5/23/2014 1:42 PM, Jim Goldring jimgoldring@... [TS-520_820_530_830] wrote:
>>
>> Mike, thanks so much for the tube manuals & info!
>> 73,
>> Jim, AK7R
>>
>
>

48838. Re: [TS-520_820_530_830] Re: Tube Manuals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-23 21:42:05 UTC
From: Mike W5RKL
Topic: 48825 Message: 48838

You're welcome Henry and I hope you and your friends enjoy the tube manuals. Hams/want a be hams or people who just want to learn about vacuum tubes can clearly learn a lot by reading/studying those tube manuals.

73
Mike W5RKL

On 5/23/2014 2:55 PM, Henry Stephan zs6mc.zs1af@...
[TS-520_820_530_830] wrote:
> Hi Mike
>
> Thank you very much for this. I have taken the liberty of passing
> these onto my fellow TS enthusiasts who are not members of this group.
>
> Greatly appreciated.
>
> Best 73
>
> Henry de ZS6MC
>
>
> On 23 May 2014, at 9:33 PM, "Mike W5RKL w5rkl@...
> <mailto:w5rkl@...> [TS-520_820_530_830]"
> <TS-520_820_530_830@yahoogroups.com
> <mailto:TS-520_820_530_830@yahoogroups.com>> wrote:
>
>> You're welcome Jim, enjoy the manuals and documents.
>>
>> 73
>> Mike W5RKL
>>
>> On 5/23/2014 1:42 PM, Jim Goldring jimgoldring@...
>> [TS-520_820_530_830] wrote:
>>>
>>> Mike, thanks so much for the tube manuals & info!
>>> 73,
>>> Jim, AK7R
>>>
>>
>

48839. Re: 1

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-24 00:54:07 UTC
From: wagstw46@...
Topic: 39479 Message: 48839

Well it is not easy to troubleshoot loss of Receive without some modest test gear.

You can test the Audio stage by connecting a test jumper to the wiper of the AF gain pot and touching your finger to the other end and should hear a hum in the speaker. Can also inject audio from a tape recorder, lap top PC headphones output, MP-3 player etc. May have to go to Radio Shack and buy a patch cord. Pretty easy to eliminate Audio stage as cause of no receive.

If you prove you have good Audio Chain then not as easy to test the IF chain. Can use a low cost LC type RF signal generator like a Heath IG-102 or Eico 324. Can get these for under $50 off eBay. Can use them to generate a 8.830 mhz RIF signal to test the IF board.

If you have another rig can set them side by side and jumper between them.

If you are getting first set of test gear suggest something similar to following:

1. Heath IM-11 or IM-18 VTVM or similar and RF probe
2. LC oscillator type RF sig gen
3. Cheap Frequency Counter (Can buy a new Victor or Sonometer brand for $100.00)

73s
Terry K9TW

48840. Trio TS-520X Manual

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-24 01:00:49 UTC
From: dtassell@...
Topic: 48840 Message: 48840

I picked up a Trio TS-520X with the built-in digital read out at Dayton. I am looking for a source for the manual or some information on the history of this model of TS-520.

Dan KC5PCB

48841. Newark has deal on HV Caps

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-24 03:14:13 UTC
From: Chris Kepus
Topic: 48841 Message: 48841

In case anyone else is planning on changing out their HV caps, Newark has a great promotion going on these and many other of their HV caps.

I ordered some of the following: Note that the diameter is the same as stock which means you can use the existing clamps.

Description: CAPACITOR ALUM ELEC 180UF, 500V, 20%, SNAP-IN; Product Range:NICHICON - GN Series; Capacitance:180ÏF; Capacitance Tolerance:ñ 20%; Voltage Rating:500V; Diameter:35mm; ESR:-; Height:30mm; Lead Spacing:10mm; Capacitor Case Style:Can $3.77 ea.

Also ordered these for my other PSU□s needing new caps.

Description: CAPACITOR ALUM ELEC 120UF, 500V, 20%, SNAP-IN; Product Range:NICHICON - GN Series; Capacitance:120ÏF; Capacitance Tolerance:ñ 20%; Voltage Rating:500V; Diameter:30mm; ESR:-; Height:30mm; Lead Spacing:10mm; Capacitor Case Style:Can $2.65 ea.

Good shopping no connection with Newark. Just passing on some decent pricing news I stumbled across.

73,

Chris

W7JPG

"Any day above ground is a good day"

[Non-text portions of this message have been removed]

48842. Re: TS-520 Power Out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-23 22:47:29 UTC
From: chastizer4@...
Topic: 48796 Message: 48842

Hi Wally, I do have a Tek 465B but have very little experience with it. I'd love to put it to use. Would you be willing to give me a couple of rough setting scenarios that I could try? Thanks, Charlie - AC6ZX

48843. Re: TS-520 Power Out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-23 22:58:32 UTC
From: chastizer4@...
Topic: 48796 Message: 48843

Thanks for following up, Joe. I'll take a look at the service manual this weekend and see what we can find. Thanks to all who serve and have served!! I'm certain there are quite a few on this group. A safe and enjoyable Memorial Day to all. 73 Charlie - AC6ZX

48844. Re: [TS-520_820_530_830] Re: Tube Manuals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-24 04:21:31 UTC
From: Henry Stephan
Topic: 48825 Message: 48844

You are so correct, Mike

Thank you once again.

Kind regards

Henry

Sent from H's iPad

> On 23 May 2014, at 11:42 PM, "Mike W5RKL w5rkl@yahoo.com [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:
>
> You're welcome Henry and I hope you and your friends enjoy the tube manuals. Hams/want a be hams or people who just want to learn about vacuum tubes can clearly learn a lot by reading/studying those tube manuals.
>
> 73
> Mike W5RKL
>
>
>> On 5/23/2014 2:55 PM, Henry Stephan zs6mc.zs1af@... [TS-520_820_530_830] wrote:
>>
>> Hi Mike
>>
>> Thank you very much for this. I have taken the liberty of passing these onto my fellow TS enthusiasts who are not members of this group.
>>
>> Greatly appreciated.
>>
>> Best 73
>>
>> Henry de ZS6MC
>>
>>
>> On 23 May 2014, at 9:33 PM, "Mike W5RKL w5rkl@yahoo.com [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:
>>
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>>> You're welcome Jim, enjoy the manuals and documents.
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>>> 73
>>> Mike W5RKL
>>>
>>>
>>>> On 5/23/2014 1:42 PM, Jim Goldring jimgoldring@... [TS-520_820_530_830] wrote:

>>>>
>>>> Mike, thanks so much for the tube manuals & info!
>>>> 73,
>>>> Jim, AK7R
>>>>
>>>
>
>

48845. Re: TS-520 Power Out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-24 12:05:31 UTC
From: wallydoc@...
Topic: 48796 Message: 48845

Charlie: There are plenty of scope tutorials on line.
Start with your calibration output on your scope to see if you get a trace: Try .2ms/div and .2V/div using the calibrator output. You should get a calibration trace.
A good starting point for HF on your scope is .02ms/div, this should give you a trace from 3-30 MHz.
Output from driver is several volts, so start with 2 V/div
You can look at the manual and see where you can measure things
like TIF into the RF board, DRV out (driver tube out, plate), OSC.
These are on the 520 RF board, on connector pins.
OSC is probably working so that would be a place to start on RF board
Anyway, start there and use your scope probe.
Don't be afraid of changing settings on the scope.
Remember it takes a division or two of amplitude before the scope can sync and you need to adjust your sync control.

I hope I remember the settings correctly. Don't quote me.

Wally KC9INK

48846. Re: [TS-520_820_530_830] TS-520S low power output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-24 14:53:11 UTC
From: John Davidson
Topic: 48813 Message: 48846

My TS520 always produced 100 W at 200 mA plate current 80-15M and 70 w on 10M/
73 K8JD

On Thursday, May 22, 2014 2:13 PM, "Mike W5RKL w5rkl@...m [TS-520_820_530_830]"
<TS-520_820_530_830@yahoogroups.com> wrote:

John,

I could be wrong but from your responses, it appears your TS-520S
alignment of the RF Unit coil pack may need to be check and if
necessary, a slight adjustment.

You can calculate the approximately DC input power and output
power by performing the following simple math calculations.

Note the HV and IP indications with full output. Multiply the HV
indicated on the meter by the IP indicated on the meter, this will
give you the approximate "DC" input power in CW mode. For example,
if the HV is 810VDC and the IP is 200ma then the approximate DC
input power in CW mode is 162 watts (810 x .2 = 162). The typical
efficiency of the Class AB1 final amplifier in the KW hybrids is
between 55% and 60%. Therefore, assuming an efficiency percentage
of 60%, the approximate power output in CW mode would be 97 watts
which is normal for the 520SE. Naturally 55% will result in a
lower power output, approximately 89 watts at 55%.

73
Mike W5RKL

On 5/22/2014 11:58 AM, jbdkz@... [TS-520_820_530_830] wrote:

>
>
>Thank you for the tip on proper signature, I joined over a year ago an don't often post.
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>With regard to the following questions:
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>
>
>
>Set the TS-520SE meter switch to IP. What is the meter indicating with the 5 watts you say
is shown on your MFJ-949C watt meter in CW mode?
>
>
>Answer: IP (Plate Current) is around 100ma
>

>
>If you adjust the CAR control clockwise in CW mode does the 5 watts indicated on the MFJ-949C watt meter "increase"?
>
>
>Answer: Yes! once turned clockwise in CW mode the watt meter on the MFJ increased to about 75 Watts. I imagine this is RMS power. What should the output wattage be for a correctly working TS-520SE in CW mode?
>
>
>Thanks,
>
>
>
>John
>KD8SCX
>
>
>
>
>
>
>

48847. Remote Cable for the 599 Twins

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-24 16:17:08 UTC
From: blkhwkdr@...
Topic: 48847 Message: 48847

First off, thanks for letting me join the group. Lot's of great info here.

I recently acquired a Kenwood T&R-599D "Twins" minus the Remote Interface Cable. Is this cable required for standard operation? The manual diagram is a little confusing. This is my first rig that has a separate transmitter and receiver. I could use a little advice. Thank you very much!

Scott, W5VTC

48848. Re: [TS-520_820_530_830] Remote Cable for the 599 Twins

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-24 16:55:25 UTC
From: Joseph Stiles
Topic: 48847 Message: 48848

Scott,

Welcome aboard.

By "standard operation," I take it that using them together as intended? The transmitter and receiver will function as stand alones, but IF you want to use them as connected TX/RX then you MUST use the cable, this effectively makes them a "Siamese twin."...or you can go through an elaborate manual switching ordeal...when changing from RX to TX. I looked at the connection diagram...and it looks pretty straight forward

73 Joe
WB7UQU
On Saturday, May 24, 2014 9:40 AM, "blkhwkdr@yahoo.com [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>First off, thanks for letting me join the group. Lot's of great info here.
>
>
>I recently acquired a Kenwood T&R-599D "Twins" minus the Remote Interface Cable. Is this cable required for standard operation? The manual diagram is a little confusing. This is my first rig that has a separate transmitter and receiver. I could use a little advice. Thank you very much!
>
>Scott, W5VTC
>
>
>
>
>

48849. Re: [TS-520_820_530_830] Remote Cable for the 599 Twins

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-24 17:05:55 UTC
From: blkhwkdr@...
Topic: 48847 Message: 48849

Thanks for the reply. I guess now begins the painful search for the remote cable, which I don't think I'm going to be able to find.

Please remember to sign your posts...no matter how short...tnx n 73 Joe wb7uqu

48850. Re: [TS-520_820_530_830] Remote Cable for the 599 Twins

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-24 17:54:03 UTC
From: Jan Servaites
Topic: 48847 Message: 48850

Joe,
I purchased my cable on Ebay a few months ago. Just keep looking around,
you will find one.
Jan N8CBX

blkhwkdr@... [TS-520_820_530_830] wrote:

>
> Thanks for the reply. I guess now begins the painful search for the
> remote cable, which I don't think I'm going to be able to find.
>
>
> <https://groups.yahoo.com/neo;_ylc=X3oDMTJkdnE3MWF0BF9TAzk3NDc2NTkwBGdycElkAzc1MjUwMjEEZ
3Jwc3BJZAMxNzA1MDYzMTA4BHNlYwNmdHIEc2xrA2dmcARzdGltZQMxNDAwOTUxOTUw>
>
> • Privacy
> <https://info.yahoo.com/privacy/us/yahoo/groups/details.html> •
> Unsubscribe
> <mailto:TS-520_820_530_830-unsubscribe@yahoogroups.com?subject=Unsubscribe>
> • Terms of Use <https://info.yahoo.com/legal/us/yahoo/utos/terms/>
>
> .
>
>

48851. Re: [TS-520_820_530_830] Remote Cable for the 599 Twins

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-24 17:57:49 UTC
From: Joseph Stiles
Topic: 48847 Message: 48851

Jan,

I'm not in need of the cable/connectors..it is Scott W5VTC that's looking. Seems he's got "the twins" with no interconnecting cable. I have seen the connectors on EBAY before also,...but none are currently listed

73 Joe
WB7UQU
On Saturday, May 24, 2014 10:51 AM, "Jan Servaites jservaites@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Joe,
>I purchased my cable on Ebay a few months ago. Just keep looking
around, you will find one.
>Jan N8CBX
>
>blkhwkdr@... [TS-520_820_530_830] wrote:
>
>
>>Thanks for the reply. I guess now
begins the painful search for the remote cable, which I don't think I'm
going to be able to find.
>>
>>
>>
>>
>>• Privacy • Unsubscribe • Terms of Use
>>
>>.
>>
>
>
>

48852. Re: Newark has deal on HV Caps

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-25 02:18:54 UTC
From: Mark Gilger
Topic: 48841 Message: 48852

Chris,
Good information. Could you also include the part numbers for each item? Just doing a search on your description turns up more than one possibility for each item.

Thanks,
Mark, WB0IQK

48853. Re: [TS-520_820_530_830] Remote Cable for the 599 Twins

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-25 04:16:03 UTC
From: Wes Will
Topic: 48847 Message: 48853

If the archives are to be trusted, the cable is simply straight-through, pin-to-pin, except that pins two (2) and five (5) are not used, and pins seven (7) and sixteen (16) are connected together.

Since (from the archive messages) the "series 1300 Hirose" connectors (with the round pins instead of the square ones which the series 1600 connectors have) are more or less pure unobtanium these days, with crazy prices (in the near-fifty-dollar range PER CONNECTOR), might I suggest a dodge I've used in more than a few similar situations before?

WING IT. Make a cable with discrete pins, instead of a single connector, on each end.

It's the same thing Motorola used on old MoTrac and other models of their mobile commercial radios to connect the tuning head and speaker box to the monstrosity of a radio bolted to the firewall or some such place in the truck. Stick the little metal pins in the little holes. Not exactly a challenge.

Use single wires with a pin on each end, covered partially with insulation to give a safe place to grip and insert them if you wish to be all fancified, and CAREFULLY just connect one wire at a time from the remote connector on the receiver to the remote connector on the transmitter. Yes, you wind up with a bunch (about thirteen, looks like) of wires.

When you're done plugging and labeling? Anyone else ever used waxed string to make wiring harnesses?

Zip ties are acceptable modern equivalents, wouldn't you say? And you don't need to remember how to make that knot on the ends of the waxed string to secure the thing.

Plug them in carefully,

one at a time,

and as you insert each one,

NUMBER EACH WIRE, AT EACH END (so you can do it again later),

then use zip ties to make it into a cable bundle. You will have skipped that hundred dollar expenditure and gotten the precise same functionality.

If someone here who happens to own one of these over-priced cables would verify what I just got from the message archives about the pins 7 and 16 being connected together, and that 2 and 5 aren't used at all, then you could go ahead with certainty and make your own cut-rate-cost,

first-rate-function, cable.

Same bat-time, same bat-station, just not same insane-expense for some hunks of wire with metal pins on the ends, and some plastic bits to hold it together. My way, you get everything except the plastic bits. And you get to spend a lot less time trying to find one of these cables or even just a pair of the connectors, and keep a lot of wonga in your own pocket instead of someone else's.

So far as I can see, from the vantage point of never having had money that I could just wipe my hind-end with, paying nearly $100 for a cable as simple as this one, well, that seems just about stupid to me. (Or even the $37.50 which was collected, per connector, when the connectors were last known to be available.)

Just find some copper rod, or some other kind of conductive metal pins of the right diameter (tin a nail if that fits the hole correctly) and make your own. There MUST be something in the junk-box or the hardware store that will supply you with the pins you need. And if a bunch of hams can't figure out how to use heat-shrink or similar to make the metal pins safe to insert by hand, well, then I despair of the whole thing.

Anybody who happens to have one of these connectors handy, would you mind taking a caliper or micrometer to one of the pins on the connector, and measuring the diameter of it? Length sticking out of the connector shell would be nice, too, but not really necessary.

A pin-out diagram in the archives as well as that pin gauge would end any problems connecting "Twins" from now on, wouldn't you think?

Maybe I've had to "make do or do without" for too long, but I just cannot see ANY sense in spending that much effort to find, and then that much money to purchase, a simple chunk of wire with some metal bits soldered on the ends.

--
Wes Will
N9KDY

48854. Re: [TS-520_820_530_830] Remote Cable for the 599 Twins

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-25 12:48:02 UTC
From: wallydoc@...
Topic: 48847 Message: 48854

Wes: I did the same thing on a smaller plug.
Used brass tubing from craft store (or ACE hardware)
Easy to cut to size and easy to solder the wire into the tube.
Tube will also work for either male or female, if you can find the right size, I think these are small, 2mm?
So maybe another pin substitute would be necessary. The ones from computer connector cables?
I don't know if there is a small enough tube for this connector.
Use the brass tubing as pins and wire the units together so that it works, as you stated.
Then make some kind of form and epoxy the whole connector, all the pins together
Use soft epoxy
You can make a form from pieces of plastic, heat bendable, or use scotch tape.
You can epoxy the new connector while it is in place if you use tape as a separator between the radio and the new epoxy plug body.
Then you can connect and disconnect the plug.
looks funky and takes some time, but it works.

Wally KC9INK

48855. Re: [TS-520_820_530_830] Remote Cable for the 599 Twins

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-25 14:47:12 UTC
From: Jan Servaites
Topic: 48847 Message: 48855

The original pin diameter that I measured is 0.059" (1.5mm). If you use the K&S engineering metal's, 1/16 brass tubing (0.0625" dia) (easily purchased at a RC model hobby shop), it will fit into the female jack (I verified it this morning) and make up your plug in that way.
However, I was going to actually replace all the control cable jacks & plugs with 15-pin D-sub connectors, which are gold plated connections and with metallic hoods, which will make a nice & clean installation and reliable with the gold plating. But, I found the original control cable on Ebay, so I jumped on that instead.
Just keep looking around for the cable, and you will find one.
Jan N8CBX

48856. Re: Hello and trouble shooting question on a 520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-25 14:20:07 UTC
From: rhumstruck@...
Topic: 48688 Message: 48856

Thanks fellas! Just a quick update here. Deoxit did the trick. After a thorough cleaning of the pots and the VFO I now have a working radio! When I got it back together and powered up I worked a station in Colorado with 59's both directions. Next I worked HK3TK in Columbia, 2743 miles! Again, solid 59's both ways.
Since my first post I have aquired an SWR/power meter and can now report that I am averaging about 100 watts out with 120-125 watt peaks.
73, Jeff KD9AGN

48857. Re: [TS-520_820_530_830] Remote Cable for the 599 Twins

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-25 15:13:28 UTC
From: nedavis49015@...
Topic: 48847 Message: 48857

A good source for waxed string is dental tape, which is very easy to work with.. All you Heathkit builders will remember the supplied elaborate wiring harnesses. They were assembled with dental tape.

I worked at the Heath Co. St Joseph, MI plant for a couple of years back in the late 1970's. I would often see the harness assemblers with their huge spools of dental tape next to their work stations. It was quite impressive to watch them (mostly women at that time) assemble the harnesses with great speed and accuracy. I certainly would have been lost doing that job.

N E Davis
WB4BKO

48858. Re: Remote Cable for the 599 Twins

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-25 13:59:04 UTC
From: blkhwkdr@...
Topic: 48847 Message: 48858

I dug through the archives. I will take your suggestions and attempt to build my own. What a great group. Thank you all very much!

Scott, W5VTC

48859. Redux: Newark has deal on HV Caps

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-25 18:05:03 UTC
From: Chris Kepus
Topic: 48859 Message: 48859

Mark and all,

Attached is a worksheet with the caps and resistors I ordered that includes the Newark stock # and the MFR's PN. If the worksheet doesn't come through, email me direct and I'll send it to you.

To keep things simple for anyone just interested in the caps listed in my first message, here they are: Info in this order:

Newark Part No. ; Manufacturer - Part No - Description

27T9821; NICHICON-LGN2H181MELC30-CAPACITOR ALUM ELEC 180UF, 500V, 20%, SNAP-IN

27T9814; NICHICON-LGN2H121MELB30-CAPACITOR ALUM ELEC 120UF, 500V, 20%, SNAP-IN

Good stuff, happy shopping.

73,

Chris

W7JPG

To all Veterans: Thank you for your service and sacrifices.

[Non-text portions of this message have been removed]

48860. Re: Remote Cable for the 599 Twins

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-25 23:24:53 UTC
From: wallydoc@...
Topic: 48847 Message: 48860

Scott: If you build your own cable putting several 2-3 inch sections of heat shrink tubing around the wires looks good and keeps it together nicely. I used a long heat shrink tube and covered the entire cable from a Hallicrafters receiver to transmitter. Looked better. No offence to the waxed string method.
Wally KC9INK

48861. Re: [TS-520_820_530_830] Re: Remote Cable for the 599 Twins

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-26 00:44:22 UTC
From: Wes Will
Topic: 48847 Message: 48861

On 05/25/2014 06:24 PM, wallydoc@... [TS-520_820_530_830] wrote:
> Scott: If you build your own cable putting several 2-3 inch sections of
> heat shrink tubing around the wires looks good and keeps it together nicely.
> I used a long heat shrink tube and covered the entire cable from a Hallicrafters
> receiver to transmitter. Looked better. No offence to the waxed string method.
> Wally KC9INK

I'm not recommending the waxed dental floss method, that's for sure, but it -does- work. Zip ties are quicker for one thing.

Heat-shrink is good stuff for this, but long piece tend to be kind of pricey.

To save some bucks here, you can use the exterior insulation from a chunk of ruined coax, carefully slipped off the braid/outer conductor.

I usually use the pieces that have soaked up water from being un-sealed and used outside without protecting the ends properly. I get that kind of stuff from CB'ers mostly, sometimes other hams. They generally know better, and certainly do after losing one piece to water.

Can't use more than a few meters of that kind of damaged cable, at most, and maybe not even that much. Usually there's some still good from the middle. The ends are always shot, because of the damage to the insulation and corrosion of the copper conductors. (That's what I use for making the odd coax jumper, those short middle bits.)

The stripped copper gets recycled, the outer sheath makes decent cable covering. The braided outer conductor can be used to shield wire runs for RFI/TVI protection. Salvage, re-use, re-purpose, re-cycle.

Yeah, I'm part Scottish. Your point?

I remember getting a 40-meter (130 feet) section of REALLY expensive hard-line from a fellow, and after trimming it a meter or so at a time (a bit snipped from each end and inspected for damage, repeat until you get to where there isn't any corrosion or water running out, or other signs of deterioration), I wound up with a whole 75 cm. of hard line left. (That's about two feet for the metric-impaired.) SUCH a waste. I was very sad, I was hoping to use some for an antenna of my own.

Back to the cable and connector:

For making the individual hand-made pins into a connector, a bit of effort and two pieces of flat lucite, lexan, polystyrene, or whatever you can scavenge out of some piece of junk, and you can make something to hold the pins in line. A bit of heat to get the pins in the plastic,

Two pieces, so to make a sandwich with the pins sticking through, and put them together with some epoxy to keep them in line, and you're in like Flynn.

Putting a sort of plastic loop on the back side is highly recommended, to give yourself a place to pull the new connector back out (instead of using the wires). Take a plastic milk jug, and cut off the screw-thread area at the mouth. Then take a circle of the plastic out, not too wide and trim it so that it fits between the two rows of pins, then put the second half of the plastic sandwich and epoxy on, to hold it between them. The loop should not be too big, but ought to give you a place on the back of this thing to grab and pull.

Some computer disk drive cables had these grips, generally higher-end models. HP was fairly good about putting these grab-handle sorts of cables in their better PCs.

Oh, yes, I am a fan of all this sort of DIY stuff. Time and scraps, I've got. Money, however, I don't.

Yeah, I know. Sucks to be poor, but not all of us are cut out for cut-throat corporate Murrikah and the big money.

I tried it for a while, and yes, the money was NICE. But I found that I do NOT fit in well with the average neck-stomping ladder-climbers, tending to want to take it personally and retaliate. Boy, howdy did I want to.

In spades, doubled. Redoubled. With brass knuckles or something to help make the lesson stick.

Which was not acceptable, and I didn't do it, but getting that strong desire to take a large chunk out of all of those little weasels, then not allowing myself to give in to the urge and do so, caused a lot of stress. So instead I went back to living in little old Nowheresville and being poor. It was better for everyone, all around.

But it isn't always a lot of fun some ways, retirement particularly hurts the old wallet. But I sleep better and it does make one quite inventive.

And this no longer has much to do with Kenwood anything, all after the loop for pulling the plug bit anyway, so I'm stopping it right here.

Good luck making the new cable, you'll be happy you did. It's good for the mind to stretch it and build something, even something this simple. And you'll be a bit richer in the back pocket area, too.

--
Wes Will
N9KDY

48862. Re: [TS-520_820_530_830] Re: Remote Cable for the 599 Twins

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-26 01:25:59 UTC
From: pmarkavage@...
Topic: 48847 Message: 48862

You can buy 8 foot lengths of heat shrink tubing starting at 99 cents from Harbor Freight:
http://www.harborfreight.com/catalogsearch/result?q=Shrink+Tubing
http://www.harborfreight.com/catalogsearch/result?q=Shrink+Tubing

There's frugal and then there's time put to better use.

Pete, wa2cwa

48863. Re: [TS-520_820_530_830] Re: Remote Cable for the 599 Twins

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-26 02:19:27 UTC
From: Wes Will
Topic: 48847 Message: 48863

On 05/25/2014 08:25 PM, pmarkavage@... [TS-520_820_530_830] wrote:
>
> You can buy 8 foot lengths of heat shrink tubing starting at 99 cents from Harbor Freight:

Hmmm... Good to know, thanks,

Nearest one of those is about an hour and 45 minutes from here, I get there about twice, maybe three times a year...

So, next time I'm in Paducah I'll pick some up and put it in the shack for when I need it.

Otherwise, foolish, frugal me, who has days on end when he can't walk more than a few steps (thank you, Uncle Arthur Itis), and has some cable that can be stripped, will save the buck in shrink tubing, and the two, three gallons of gas.

--
Wes Will
SysAdmin

48864. Website New Items

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-26 17:16:36 UTC
From: wagstw46@...
Topic: 48864 Message: 48864

Put two new items on my website today.

1. Under FAQs-- White paper on what is ALC and how should I set it? In response to off Reflector question.

2. Under Photos-- Picture of my new Rigol Spectrum Analyzer measuring the frequency response of a TS830 Murata K5 455khz Ceramic IF filter. I am still learning how to use this new piece of test gear. It will allow me to put the Sweep generator, RF detector, O-scope, and Freq Counter and all the interconnecting cables aside as all these functions are combined in this one small and powerful box!

If interested can view at www.k9tw.com http://www.k9tw.com

Hope all having great holiday. Finally summer has arrived!

73s
Terry K9TW

48865. Re: [TS-520_820_530_830] TS-520S low power output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-26 23:44:27 UTC
From: jbdkz@...
Topic: 48813 Message: 48865

Thank you for the information!

John
KD8SCX

48866. Re: Website New Items

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-28 04:16:08 UTC
From: Chris Kepus
Topic: 48864 Message: 48866

Terry,

Hey! Your website looks very good! Very well organized and equipped test bench, too. The pictures of the Rigol SA filter scan are also very interesting. How does the scan result compare with the specs?

Thanks for sharing.

73,

Chris

W7JPG

"Any day above ground is a good day"

[Non-text portions of this message have been removed]

48867. Re: Website New Items

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-28 13:54:15 UTC
From: wagstw46@...
Topic: 48864 Message: 48867

Chris:

Thanks. My first attempt at a website. It is work in progress. I am not very computer literate and trying to do it on the cheap by using Google Sites which is free, but not too user friendly from my perspective.

I plan to add some videos perhaps starting with how to load, various ways to neutralize, how to run TX Level Diagrams to troubleshoot low or loss of RF drive etc. Just not enough hours in the day to do all I would like to do.

As to the frequency response of the Murata filters in comparison to the specs I have to say that this picture was made about 1/2 hour after taking the Rigol out of the box and I did not really know how to use it. Also, didnt have any 2k ohm resistors to terminate the filter with so just used a couple of 1k resistors which I am sure effects the pass band ripple. The Rigol allows you to store traces in internal memory or on a flash drive. I have started doing that for BPF in the TS520 and TS830 rigs.

Still learning how to set it up and use it properly. I have a spare K5 and K12 and plan to compare them to the specs. The K5 is as follows:

Center Freq = 455khz +/- 0.2khz
-6dB = 2.7khz or more
-60dB = 4.5khz or more
Input/Output characteristic impedance = 2k ohms

About only thing we can tell by looking at this first effort is the filter isnt grossly off the specs.

When I get time I will sweep all the filters and post pictures.

I wish I could find KW factory response curves so I could know for certain how much ripple is normal.

If you go to INRAD site you can see some response curves for the filters they sell for legacy radios of different mfgs. Would be nice to have those for the KW factory filters.

Anyway short answer is I know my spare K5 is not grossly off or bad, but cant tell you if it matches the published specs at this time.

Fortunately in my experience seldom have bad xtal IF filters. It does happen but not common. I think I have had 2 bad optional CW filters over the years. I dont know if it is from crystal aging???

Terry K9TW

48868. Re: [TS-520_820_530_830] Re: Website New Items

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-28 14:23:46 UTC
From: Jim
Topic: 48864 Message: 48868

Hi Terry-

How were you able to transform the output impedance of the filter (2K) to the input impedance of your spectrum analyzer (50 ohm)?

Jim, KC1RM

On 5/28/2014 9:54 AM, wagstw46@... [TS-520_820_530_830] wrote:
>
> Chris:
>
>
> Thanks. My first attempt at a website. It is work in progress. I am
> not very computer literate and trying to do it on the cheap by using
> Google Sites which is free, but not too user friendly from my
> perspective.
>
> I plan to add some videos perhaps starting with how to load, various
> ways to neutralize, how to run TX Level Diagrams to troubleshoot low
> or loss of RF drive etc. Just not enough hours in the day to do all I
> would like to do.
>
> As to the frequency response of the Murata filters in comparison to
> the specs I have to say that this picture was made about 1/2 hour
> after taking the Rigol out of the box and I did not really know how to
> use it. Also, didnt have any 2k ohm resistors to terminate the filter
> with so just used a couple of 1k resistors which I am sure effects the
> pass band ripple. The Rigol allows you to store traces in internal
> memory or on a flash drive. I have started doing that for BPF in the
> TS520 and TS830 rigs.
>
> Still learning how to set it up and use it properly. I have a spare K5
> and K12 and plan to compare them to the specs. The K5 is as follows:
>
> Center Freq = 455khz +/- 0.2khz
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> filters they sell for legacy radios of different mfgs. Would be nice
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> Anyway short answer is I know my spare K5 is not grossly off or bad,
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> Fortunately in my experience seldom have bad xtal IF filters. It does
> happen but not common. I think I have had 2 bad optional CW filters
> over the years. I dont know if it is from crystal aging???
>
> Terry K9TW
>

48869. Re: [TS-520_820_530_830] Re: Website New Items

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-28 15:47:03 UTC
From: John Davidson
Topic: 48864 Message: 48869

40:1 balun ?

On Wednesday, May 28, 2014 11:30 AM, "Jim kc1rm@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Hi Terry-

How were you able to transform the output impedance of the filter (2K) to the input impedance of your spectrum analyzer (50 ohm)?

Jim, KC1RM

On 5/28/2014 9:54 AM, wagstw46@... [TS-520_820_530_830] wrote:

>Chris:
>
>
>Thanks. My first attempt at a website. It is work in progress. I am not very computer literate and trying to do it on the cheap by using Google Sites which is free, but not too user friendly from my perspective.
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>I plan to add some videos perhaps starting with how to load, various ways to neutralize, how to run TX Level Diagrams to troubleshoot low or loss of RF drive etc. Just not enough hours in the day to do all I would like to do.
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>About only thing we can tell by looking at this first effort is the filter isnt grossly

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>When I get time I will sweep all the filters and post pictures.
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>I wish I could find KW factory response curves so I could know for certain how much ripple is normal.
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>If you go to INRAD site you can see some response curves for the filters they sell for legacy radios of different mfgs. Would be nice to have those for the KW factory filters.
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>Anyway short answer is I know my spare K5 is not grossly off or bad, but cant tell you if it matches the published specs at this time.
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>
>Fortunately in my experience seldom have bad xtal IF filters. It does happen but not common. I think I have had 2 bad optional CW filters over the years. I dont know if it is from crystal aging???
>
>
>Terry K9TW
>

48870. Re: [TS-520_820_530_830] Re: Website New Items

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-28 15:47:57 UTC
From: John Davidson
Topic: 48864 Message: 48870

40:1 BalUn for filter load to spectrum analyzer ?
73...K8JD

On , John Davidson <k8jd@...> wrote:

40:1 balun ?

On Wednesday, May 28, 2014 11:30 AM, "Jim kc1rm@... [TS-520_820_530_830]"
<TS-520_820_530_830@yahoogroups.com> wrote:

Hi Terry-

How were you able to transform the output impedance of the filter
(2K) to the input impedance of your spectrum analyzer (50 ohm)?

Jim, KC1RM

On 5/28/2014 9:54 AM, wagstw46@... [TS-520_820_530_830] wrote:

>Chris:
>
>
>Thanks. My first attempt at a website. It is work in progress. I am not very computer literate and trying to do it on the cheap by using Google Sites which is free, but not too user friendly from my perspective.
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>
>
>Still learning how to set it up and use it properly. I have a spare K5 and K12 and plan to compare them to the specs. The K5 is as follows:
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>Input/Output characteristic impedance = 2k ohms
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>
>
>Terry K9TW
>

48871. Antenna for Ts-530s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-28 18:43:27 UTC
From: john
Topic: 48871 Message: 48871

Having just acquired the radio with matching ATU, an antenna is my next purchase. Currently due to licensing restrictions I can't TX so will just be listening for the time being.

Measuring up, I have 50ft in the back garden available to me for an antenna.

My choices so far are

G5RV(or similar), centre fed
Long wire, end fed
or
Vertical HF.

The G5RV might prove troublesome due to being centre fed as it the feed would be right in the middle of the garden and will get in the way
Long wire, would be the next choice with a 9:1 UnUn then fed in the AT-230 ATU

Or vertical HF.

As the ATU has 3 antenna inputs, 2 x SO239 sockets and 1 x wingnut type connector with what looks like a ceramic mount, I could run more than one?

As, I am only listening, could I just use a length of wire with a suitable connector at one end or use the wingnut type connector?

cheers

john
m6jpe

48872. RE: New T-530s owner

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-28 18:33:24 UTC
From: john
Topic: 48822 Message: 48872

Hi
Thanks for the info and reply regarding the mics etc. Looking in the manual the PO has written a diagram for the mic, as I think the socket may have been replaced at some point. Its now a 4 pin socket, with 4 circular pins (like my Rotel 240 CB radios has)

At the mo, I happy to leave the extra band/function in place.

Stand by for questions regarding antennas. I have seen G5RVs for sale here in the UK.

cheers

John
M6JPE

From: wallydoc@... [TS-520_820_530_830]
[mailto:TS-520_820_530_830@yahoogroups.com]
Sent: 24 May 2014 01:47
To: john@...
Subject: Re: New T-530s owner

John:
Good luck with your new radio.
It takes a high impedance microphone. Cheap old CB mikes work, Astatic D104s work, they are crystal, high impedance. Lots of mikes will work. Mike wiring diagrams are in the user manual.
I used a cheap Karioke Mike (600 ohms) once with good results, Xtal mikes are much higher impedance.

Your unit probably has a CB mod to 27 MHZ. 11 Meters.
If you want to restore to the original xtal sometimes you can find an entire oscillator board at a radio shop cheaply.
When I want to restore Xtals, I use Quartzlab, a UK company about $15 US an xtal. You might be able to sell the present Xtal to a CB shop and break even. Sometimes they may have your xtal that they removed.
But if you don't want to use 10 meters,ignore it.

Any antenna will work, a G5RV is nice because you can explore lots of bands, and since it is British, it might work best in the UK. Ha!.
Don't worry about any SWR, the Plate and Load will take care of it. I bought an antenna tuner and believe it is quite superfluous. It is better to have a good SWR but a bad one will not hurt the radio.
I have restored several 520, 530s and 820s, all good radios with really good sensitivity.Better sensitivity than lots of new rigs.

Wally KC9INK

48873. Re: [TS-520_820_530_830] Antenna for Ts-530s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-28 20:16:41 UTC
From: Bob Lazarow
Topic: 48871 Message: 48873

John: Congrats on the purchases

Until Hurricane "Sandy" I was running an Off Center Fed (OCF) same or similar to a Windom with my '830 barefoot. Due to space restrictions, I could only run the 40m-10m version, but this thing really performs. There are some nice reviews on EHam...you can buy one or make your self...the only thing is that to do well it needs to be up a bit so that the coax feed can drop vertically down....say 25 feet. With the TS-830 and the pi tuning most of the time I didn't need my tuner.

At the same location, similiar configuration, it blew the socks off the G5RV! Unfortunately for me, with our recent move, my next antenna will have to be either inside the attic or really hidden,,,oh well.

PS: the Windom survived Sandy, but the tree didn't!

Good luck

Bob / WA2JAJ

On 5/28/2014 2:43 PM, 'john' john@...
[TS-520_820_530_830] wrote:
>
> Having just acquired the radio with matching ATU, an antenna is my
> next purchase. Currently due to licensing restrictions I can't TX so
> will just be listening for the time being.
> Measuring up, I have 50ft in the back garden available to me for an
> antenna.
> My choices so far are
> G5RV(or similar), centre fed
> Long wire, end fed
> or
> Vertical HF.
> The G5RV might prove troublesome due to being centre fed as it the
> feed would be right in the middle of the garden and will get in the way
> Long wire, would be the next choice with a 9:1 UnUn then fed in the
> AT-230 ATU
> Or vertical HF.
> As the ATU has 3 antenna inputs, 2 x SO239 sockets and 1 x wingnut
> type connector with what looks like a ceramic mount, I could run more
> than one?
> As, I am only listening, could I just use a length of wire with a
> suitable connector at one end or use the wingnut type connector?
> cheers
> john
> m6jpe

>

48874. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-28 20:40:09 UTC
From: leonardmiller579@...
Topic: 48679 Message: 48874

Terry, I was able to squeeze a few minutes bench time today. I re-checked those voltages I gave you, and as you suspected they were incorrect. I'm not sure what happened. I used a different volt meter this time. Maybe there's something wrong with the "I got it free, with purchase" at Harbor Freight. Needless to say it's in the trash can.

I will label the (2) 6146 tubes as V1 & V2. V1 is the closet one to the front, and V2 is the closets tube to the back of the chassis.

Ok... here's what I did. I ran the rig into a dummy load, tuned it on each band as then checked the voltages on pin #3 on both receive and transmit.

Here are the results for V1. The first reading will be receive and the 2nd transmit.

160 meters - 267/225 VDC
80 meters - 267/224 VDC
40 meters - 267/225 VDC
20 meters - 268/211 VDC
15 meters - 268/70 VDC
10 meters - 266/140 VDC

And for V2:

160 meters - 267/224 VDC
80 meters - 267/225 VDC
40 meters - 268/224 VDC
20 meters - 268/218 VDC
15 meters - 263/68 VDC
10 meters - 264/200 VDC

Without really understanding all this, I can see that something looks a little funky on 15 & 10?

Leonard/WV3P

48875. Re: [TS-520_820_530_830] Antenna for Ts-530s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-28 20:46:37 UTC
From: K5MYJ
Topic: 48871 Message: 48875

If you are just going to listen for now a LONG WEIRE will do. And it does not have to be straight. You can run it to a support as far from you SHACK as possible then bend it 90(?) degrees and run it to another support.

I live in a 20X20 RETIREMENT CLOSET near Seattle, I have a 40M dipole 6" below the ceiling. from the feedpoint it runs west 20' then north 20'. The other side runs north 20' then west 20'.

On last weekends contest I copied 2 Florida stations on 20M and 2 Japan stations on 20M. I copied a bunch of Midwest stations on 40M.

So until you are ready to try transmitting KEEP IT SIMPLE.

If you get a TECH ticket all you will needs a 10M antenna. They are small unless you want to put up a beam on a rotator.

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"
----- Original Message -----
From: 'john' john@... [TS-520_820_530_830]
To: TS-520_820_530_830@yahoogroups.com
Sent: Wednesday, May 28, 2014 11:43 AM
Subject: [TS-520_820_530_830] Antenna for Ts-530s

Having just acquired the radio with matching ATU, an antenna is my next purchase. Currently due to licensing restrictions I can't TX so will just be listening for the time being.

Measuring up, I have 50ft in the back garden available to me for an antenna.
My choices so far are

G5RV(or similar), centre fed
Long wire, end fed
or
Vertical HF.

The G5RV might prove troublesome due to being centre fed as it the feed would be right in the middle of the garden and will get in the way
Long wire, would be the next choice with a 9:1 UnUn then fed in the AT-230 ATU

Or vertical HF.

As the ATU has 3 antenna inputs, 2 x SO239 sockets and 1 x wingnut type connector with what looks like a ceramic mount, I could run more than one?

As, I am only listening, could I just use a length of wire with a suitable connector at one end or use the wingnut type connector?

cheers

john
m6jpe

48876. Re: [TS-520_820_530_830] RE: New T-530s owner

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-28 20:50:44 UTC
From: K5MYJ
Topic: 48822 Message: 48876

Do it the EASY WAY. Buy a Kenwood MC-50. Your TS-530 is made to use the TS-50.

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"
----- Original Message -----
From: 'john' john@... [TS-520_820_530_830]
To: TS-520_820_530_830@yahoogroups.com
Sent: Wednesday, May 28, 2014 11:33 AM
Subject: [TS-520_820_530_830] RE: New T-530s owner

Hi
Thanks for the info and reply regarding the mics etc. Looking in the manual the PO has written a diagram for the mic, as I think the socket may have been replaced at some point. Its now a 4 pin socket, with 4 circular pins (like my Rotel 240 CB radios has)

At the mo, I happy to leave the extra band/function in place.

Stand by for questions regarding antennas. I have seen G5RVs for sale here in the UK.

cheers

John
M6JPE

From: wallydoc@... [TS-520_820_530_830] [mailto:TS-520_820_530_830@yahoogroups.com]
Sent: 24 May 2014 01:47
To: john@motorsport-recovery.com
Subject: Re: New T-530s owner

John:
Good luck with your new radio.
It takes a high impedance microphone. Cheap old CB mikes work, Astatic D104s work, they are crystal, high impedance. Lots of mikes will work. Mike wiring diagrams are in the user manual.
I used a cheap Karioke Mike (600 ohms) once with good results, Xtal mikes are much higher impedance.

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But if you don't want to use 10 meters,ignore it.

Any antenna will work, a G5RV is nice because you can explore lots of bands, and since it is British, it might work best in the UK. Ha!.
Don't worry about any SWR, the Plate and Load will take care of it. I bought an antenna tuner and believe it is quite superfluous. It is better to have a good SWR but a bad one will not hurt the radio.
I have restored several 520, 530s and 820s, all good radios with really good sensitivity.Better sensitivity than lots of new rigs.
Wally KC9INK

48877. ts 520s issue

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-28 21:11:41 UTC
From: bunnda61@...
Topic: 48877 Message: 48877

Hi I am Dave ka8gcq I have a ts520s I have had this one for 5 years. It is now having issues I need to find out if anyone know what this problem is I switch it on and the meter go`s all the way over and there is no sound the lights come on . I do my own repairs if I can I am thinking the power supply board but I am asking for people that have more experience Thanks Dave

48878. Re: [TS-520_820_530_830] Antenna for Ts-530s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-28 22:47:40 UTC
From: clifford wright
Topic: 48871 Message: 48878

I'm an old G5RV fan. I've used them for over 45 years. However I keep getting puzzled by some of the results
obtained by (especially North American) users. Many years ago I frequently had QSO's with the designer.

G5RV himself rapidly found that the compromise involved with a match to 75 Ohm unbalanced could cause a lot of problems. In fact it was originally to 75 Ohm twin feeder!!!
Note UK TV used 75 Ohm coax or twin line at the time.
Later he always recommended that his antenna be fed through an ATU.

My present 102 ft G5RV is at 7 metres above ground and I can get out fine on everything down to 80 metres. Recently using it as a receiving antenna with a SDR radio I have designed, it works so well that I rarely use my Kenwood 820S unless I want to transmit.
I use a single coil Z match tuner with the coil carefully adjusted so that 2 bands don't coincide. This helps with rejection of out of band signals. The only band where problems can arise is 10.1 MHz where a small 1.5uH coil in series with one side of the open wire line enables a good 1:1 SWR.

So, when using a G5RV remember it is a balanced antenna. Open wire line can have quite a high SWR without excessive losses (unlike coax) and the feeders are an active part of the whole antenna, not just a way of connecting to it. Hopefully no one is trying to feed the end of the feeders straight from the transmitter output via coax!
ZL1BDA

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

48879. Re: [TS-520_820_530_830] ts 520s issue

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-28 23:47:45 UTC
From: Bill Houghton
Topic: 48877 Message: 48879

Try the simplest thing first.. sounds like you might have the RF gain turned all the way down.

73,

Bill, WA6NEQ

PS- done it myself, too.

On Wed, 5/28/14, bunnda61@... [TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com> wrote:

Subject: [TS-520_820_530_830] ts 520s issue
To: TS-520_820_530_830@yahoogroups.com
Date: Wednesday, May 28, 2014, 2:11 PM

Hi I am Dave ka8gcq I have a ts520s I have
had this one for 5 years. It is now having issues I need to
find out if anyone know what this problem is
I switch it on and the meter go`s all the way over and
there is no sound the lights come on . I do my own repairs
if I can I am thinking the power supply board but I am
asking for people that have more experience Thanks
Dave

48880. Ts 820s plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-28 23:53:21 UTC
From: kf5vhy@...
Topic: 48880 Message: 48880

I am a new general class and bought a ts 820s. I can peak the drive but when I try to dip the plate nothing happens. Are the finals bad? Thanks Duff KF5VHY Texas

48881. Re: Ts 820s plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-29 00:35:03 UTC
From: w5rkl@...
Topic: 48880 Message: 48881

Duff,

You say "nothing happens" when you try to dip the plate. What do you mean by that?

Do you see cathode current meter indication during TUNE mode tune up?

Did you remove the top cover to see if the PLATE shaft coupler may have broken or the coupler set screws have come loose?

73
Mike W5RKL

48882. Re: [TS-520_820_530_830] Re: Ts 820s plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-29 00:51:47 UTC
From: Duff Morrow
Topic: 48880 Message: 48882

What I mean is when I turn the alc to ip and flip send and move the plate around the reading stays at zero and doesn’t move.

Im new so I don’t understand the second question.

I have not removed the top cover. I have noticed that the plate knob will rotate 360 degrees. Is that normal?

Thanks
Duff
KF5VHY

On May 28, 2014, at 7:35 PM, w5rkl@... [TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com> wrote:

> Duff,
>
> You say "nothing happens" when you try to dip the plate. What do you mean by that?
>
> Do you see cathode current meter indication during TUNE mode tune up?
>
> Did you remove the top cover to see if the PLATE shaft coupler may have broken or the coupler set screws have come loose?
>
> 73
> Mike W5RKL
>
>

48883. Re: [TS-520_820_530_830] Re: Ts 820s plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-29 01:06:53 UTC
From: Mike W5RKL
Topic: 48880 Message: 48883

Duff,

You answered the second question when you said placing the meter switch to IP then flipping the SEND results in the meter resting at zero. The IP meter switch position displays the final amplifier's cathode current in transmit.

Check the rear panel's "SG" switch, it should be in the "ON" position. The SG switch is located on the rear panel directly below the fan.

Also, do you have the TS-820 operator's manual? If so have you spent time to thoroughly read the operator's manual so you become familiar with the various controls on the front and rear panel, what each control is for and how to use them?
73
Mike W5RKL

On 5/28/2014 7:51 PM, Duff Morrow kf5vhy@... [TS-520_820_530_830] wrote:
>
> What I mean is when I turn the alc to ip and flip send and move the
> plate around the reading stays at zero and doesn’t move.
>
>
> Im new so I don’t understand the second question.
>
> I have not removed the top cover. I have noticed that the plate knob
> will rotate 360 degrees. Is that normal?
>
> Thanks
> Duff
> KF5VHY
>
> On May 28, 2014, at 7:35 PM, w5rkl@... <mailto:w5rkl@...>
> [TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com
> <mailto:TS-520_820_530_830@yahoogroups.com>> wrote:
>
>> Duff,
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>> You say "nothing happens" when you try to dip the plate. What do you
>> mean by that?
>>
>> Do you see cathode current meter indication during TUNE mode tune up?
>>
>> Did you remove the top cover to see if the PLATE shaft coupler may
>> have broken or the coupler set screws have come loose?

```
>>
>> 73
>> Mike W5RKL
>>
>
>
```

48884. Re: [TS-520_820_530_830] Re: Ts 820s plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-29 01:09:42 UTC
From: Mike W5RKL
Topic: 48880 Message: 48884

Yes, the PLATE knob rotating 360 degrees is normal.

Forget about removing the top cover. Check the SG switch on the rear panel first.

I forgot the ask, do you have a 50 ohm dummy load that has a power rating of at least twice the power output of the TS-820 (250 watts or more)? If not then you need to purchase and use one. Tuning up on the air can cause interference with other stations on the same frequency.

73
Mike W5RKL

On 5/28/2014 7:51 PM, Duff Morrow kf5vhy@... [TS-520_820_530_830] wrote:
>
> What I mean is when I turn the alc to ip and flip send and move the
> plate around the reading stays at zero and doesn’t move.
>
>
> Im new so I don’t understand the second question.
>
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> will rotate 360 degrees. Is that normal?
>
> Thanks
> Duff
> KF5VHY
>
> On May 28, 2014, at 7:35 PM, w5rkl@... <mailto:w5rkl@...>
> [TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com
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>>
>> Did you remove the top cover to see if the PLATE shaft coupler may
>> have broken or the coupler set screws have come loose?
>>
>> 73
>> Mike W5RKL
>>

>
>

48885. Re: [TS-520_820_530_830] Re: Ts 820s plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-29 01:24:15 UTC
From: Bill Houghton
Topic: 48880 Message: 48885

Duff,

I don't have an 820 so I can't comment about the plate tuning control. On my 520, the plate control does have mechanical stop so its possible as Mike says that the shaft coupler screws have come loose.

Have you adjusted the idle current for the finals per the manual? Every radio I've had with tube finals is adjusted pretty much the same way.

You turn down the drive to zero. Usually this is controlled by the CARRIER control. On my 520 this knob is called CAR.
Key the transmitter.
Adjust the plate current to the IDLE current amount specified in the manual. On the radios I have this varies from 50mA to 100mA depending on the rig. This is controlled by a pot most often labelled BIAS. This sets the DC operating point for the final tubes.

Increase the drive level with the CAR control until the plate current increases above the IDLE current level.
Tune the PLATE for min plate current.
Tune the LOAD for peak plate current.
Peak the grid tuning for max plate current.

Increase the drive level with the CAR control and repeat the plate and load tuning until you either reach the max plate current specified in the manual or you can't get any more.

As Mike suggested, please make sure that you have read the sections of the manual that refer to tuning the transmitter. If this is the first time, do a dry run a few times with the rig off, imaging that you are getting plate current, just to get use to the process.

73,

Bill, WA6NEQ

On Wed, 5/28/14, Duff Morrow kf5vhy@... [TS-520_820_530_830]
<TS-520_820_530_830@yahoogroups.com> wrote:

Subject: Re: [TS-520_820_530_830] Re: Ts 820s plate current
To: TS-520_820_530_830@yahoogroups.com
Date: Wednesday, May 28, 2014, 5:51 PM

What I mean is when I turn the alc to ip and flip
send and move the plate around the reading stays at zero and
doesn’t move.
Im new so I don’t understand the second
question.
I have not removed the top cover. I have noticed
that the plate knob will rotate 360 degrees. Is that

normal?
Thanks DuffKF5VHY
On May 28, 2014, at 7:35 PM, w5rkl@...
[TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com>
wrote:
Duff,

You say "nothing happens" when you try to dip the
plate. What do you mean by that?

Do you see cathode current meter indication during TUNE mode
tune up?

Did you remove the top cover to see if the PLATE shaft
coupler may have broken or the coupler set screws have come
loose?

73
Mike W5RKL

48886. Re: [TS-520_820_530_830] Re: Website New Items

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-29 01:24:53 UTC
From: wagstw46@...
Topic: 48864 Message: 48886

Jim:

In the case of this KW Murata filter the simplest thing to do is just place a 2k resistor in series on each side of the filter. I experimented with placing the output resistor in series and in shunt and made little difference.

With no resistors you will see plenty of ripple. I didnt have any 2k resistors on hand so I just used a 1k resistor in series with test leads on each side of the filter and it greatly reduced the ripple that I had with no series resistance. If you want to get fancy can use a 3dB or 6dB 50ohm attenuator pads on each side.

Some fellows build a test jig and use a series trimmer pot and a shunt capacitor. This is closer to what the filter typically sees in circuit. So in this case would use a 2500 ohm trim pot and a 30pf glass piston trimmer. on each side of the filter. You adjust both for minimum amount of passband ripple. You test by injecting rf from the tracking generator (use as low a level as you can) in to one end and then reverse the filter and see if you have symmetry.

It just really depends on what kind of termination the filter requires. If it requires purely resistive then might need to place a small adjustable slug tuned rf choke in shunt on each side of the filter to cancel the stray capacitance of your test connections. I dont think this will be the case with any of the KW filters. I do want to be able to test any filter I should buy off eBay before installing it in the radio so I may build a test jig. Right now just using bunch of mini-grabber test leads.

Up until now all of my filter sweeping (BPF and Xtal IF filters) experience with KW hybrids has been using a Sweep Gen, RF detector, Freq Counter, and O-scope. So I am just learning how to use the Rigol DSA815-TG Spectrum Analyzer to do this same job. I normally only check the RX and TX BPF in the TS520 andTS520S rigs and the PLL BPFs in the TS530 and TS830 as part of alignment. I would not routinely sweep the Xtal IF filters unless the rig had a problem which indicated signal wasnt getting thru the filter or was being excessively attenuated.

To sweep the filters in circuit need to disable the VFO or the RIF in some manner as you dont want any signals coming from the receiver front end. Need the rig powered on so the filter switching diodes are biased on. I just connect at each filter switching diode cathode with a micro-grabber test lead.

Terry K9TW

48887. Re: [TS-520_820_530_830] Re: Ts 820s plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-29 01:41:05 UTC
From: Duff Morrow
Topic: 48880 Message: 48887

Yes Sg switch is on. I also have the manual. I have read it and know the procedure. I have a pdf file of tuning instructions (NR6C). I ordered a dummy load and received it today. Today was the first time I have tried to tune it.

My elmer is not very familiar with these kind of radios. So that is why I am on here.

Duff
KF5VHY

On May 28, 2014, at 8:06 PM, Mike W5RKL w5rkl@... [TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com> wrote:

> Duff,
>
> You answered the second question when you said placing the meter switch to IP then flipping the SEND results in the meter resting at zero. The IP meter switch position displays the final amplifier's cathode current in transmit.
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> Check the rear panel's "SG" switch, it should be in the "ON" position. The SG switch is located on the rear panel directly below the fan.
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> Also, do you have the TS-820 operator's manual? If so have you spent time to thoroughly read the operator's manual so you become familiar with the various controls on the front and rear panel, what each control is for and how to use them?
> 73
> Mike W5RKL
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>>> 73
>>> Mike W5RKL
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>
>
>

48888. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-29 02:00:34 UTC
From: wagstw46@...
Topic: 48679 Message: 48888

Leonard

It looks like you are beginning to see something at 20 meters as well. I would shut rig down and make sure HV filter caps are discharged and line cord unplugged from 120vac recept and then measure R5 and R6 100 ohm grid stopper resistors.

I would also look at C11 and C12 screen bypass capacitors. Maybe they are getting leaky? Not sure you will be able to see anything with a visual so might just need to go ahead and replace them.

Also look at L2 470uhy choke to see if it looks discolored.

I will have to think about this some more as must admit have never seen screen grid voltage go down as you go up in frequency. The Xc of the caps is inversely proportional to frequency so higher you go lower the Xc so maybe they are leaky and it has greater effect as you go up in frequency?

Take a look at the parasitic suppressors as well to make sure the 47 ohm resistors in them are not burned up or cracked.

With the levels of SG voltage you are reporting the rig cant be loading up to normal output power on the higher bands especially 15 meters.

Terry K9TW

48889. Re: [TS-520_820_530_830] Antenna for Ts-530s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-29 04:41:09 UTC
From: KB1TCD
Topic: 48871 Message: 48889

I have two OCF's, one that does 80 - 6m and the other 40 - 6m, both
without a tuner.
I bought the 4:1 baluns and did the rest myself, these antennas cost
about US$ 50.00 to make, thirty minutes to make and work great!!!
The 80 - 6 meter one's total length is 135 feet and the smaller one 68 feet.
I use the 80 - 6 meter one with my Yaesu 897D and Kenwood TS-830S and
the smaller one with my Kenwood TS-120S I have in the cellar.
I really like not having to use a tuner with either antenna.

73 from Mid Coast Maine

Jose Douglas - KB1TCD

On 5/28/2014 4:16 PM, Bob Lazarow r_lazarow@...
[TS-520_820_530_830] wrote:
> John: Congrats on the purchases
>
> Until Hurricane "Sandy" I was running an Off Center Fed (OCF) same or
> similar to a Windom with my '830 barefoot. Due to space restrictions, I
> could only run the 40m-10m version, but this thing really performs.
> There are some nice reviews on EHam...you can buy one or make your
> self...the only thing is that to do well it needs to be up a bit so
> that the coax feed can drop vertically down....say 25 feet. With the
> TS-830 and the pi tuning most of the time I didn't need my tuner.
>
> At the same location, similiar configuration, it blew the socks off
> the G5RV! Unfortunately for me, with our recent move, my next antenna
> will have to be either inside the attic or really hidden,,,oh well.
>
> PS: the Windom survived Sandy, but the tree didn't!
>
> Good luck
>
> Bob / WA2JAJ

48890. Re: [TS-520_820_530_830] Re: Ts 820s plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-29 01:49:42 UTC
From: Duff Morrow
Topic: 48880 Message: 48890

ok bill ill try that

Thanks for the info

Duff
KF5VHY
On May 28, 2014, at 8:24 PM, Bill Houghton rdrbill@pacbell.net mailto:rdrbill@pacbell.net [TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com mailto:TS-520_820_530_830@yahoogroups.com> wrote:

Duff,

I don't have an 820 so I can't comment about the plate tuning control. On my 520, the plate control does have mechanical stop so its possible as Mike says that the shaft coupler screws have come loose.

Have you adjusted the idle current for the finals per the manual? Every radio I've had with tube finals is adjusted pretty much the same way.

You turn down the drive to zero. Usually this is controlled by the CARRIER control. On my 520 this knob is called CAR.
Key the transmitter.
Adjust the plate current to the IDLE current amount specified in the manual. On the radios I have this varies from 50mA to 100mA depending on the rig. This is controlled by a pot most often labelled BIAS. This sets the DC operating point for the final tubes.

Increase the drive level with the CAR control until the plate current increases above the IDLE current level.
Tune the PLATE for min plate current.
Tune the LOAD for peak plate current.
Peak the grid tuning for max plate current.

Increase the drive level with the CAR control and repeat the plate and load tuning until you either reach the max plate current specified in the manual or you can't get any more.

As Mike suggested, please make sure that you have read the sections of the manual that refer to tuning the transmitter. If this is the first time, do a dry run a few times with the rig off, imaging that you are getting plate current, just to get use to the process.

73,

Bill, WA6NEQ

---

portions of this post were deleted as it was already posted material

Please remember, you do not have to include prior posts in your responses...it saves time and space...tnx n 73 Joe wb7uqu Group Co-owner

48891. Re: [TS-520_820_530_830] Re: Ts 820s plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-29 03:03:37 UTC
From: Duff Morrow
Topic: 48880 Message: 48891

Ok so I bought this radio from a guy and he told me everything worked and it was bench tested. I just sent him an email and this is what he responded. "I generally tune for max power out. When there’s max power out the plate is dipped and the circuit is resonant. If you’re getting power out you need to switch the rig to read Plate current I think it’s called IC. But tune for max output that’s the real way to make it rock!”

Im not sure what he is trying to say but if I try to tune by the steps in the manual it doesn’t work.

I thought one of you guys might be able to translate. Haha

Duff
KF5VHY

this post edited as it contained already posted material
73 Joe wb7uqu

48892. Re: [TS-520_820_530_830] Re: Ts 820s plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-29 06:02:00 UTC
From: Bill Houghton
Topic: 48880 Message: 48892

Hi Duff,

Here is a quick version of the basics for the final tubes. This is generalized and not just for the Kenwood rigs.

The plate has a high voltage, typically around+ 850V to +1000V.
The screen voltage is typically in the +200V to +300V range.
The cathode is typically tied to ground though a very low value resistor.

The DC voltage on the grid is negative and controls the operating region of the tube. This voltage will often be called the "bias" or "grid bias". If its too negative, the tube will be cutoff and you will have no plate current. This voltage needs to be adjusted to a point where the tube is conducting and is in the operating region. This is what the bias adjustment(i.e- adjusting the idle current) is for and why you adjust it with no drive signal.

I don't recall the Kenwood values but I just recently was working a Yaesu with a pair of 6146B finals, basically the same tubes in the Kenwood hybrids. To give you an idea, in the Yaesu during receive the grid is switched to -125V, totally cutting off the finals. When you adjust the IDLE current to 50mA in transmit, the grid sits at around -65V.

The fact that you see NO plate current (Ic) during transmit suggests that you might have the bias adjusted for zero idle current.

"Ic" technically refers to the cathode current since that is what is actually measured. Cathode current is almost the same as the plate current.

Without getting into a lot of details, the seller is basically correct in that you can tune by watching max power out. However, you do need to max sure that you don't exceed the max Ic as specified in the manual.

73,

Bill, WA6NEQ

On Wed, 5/28/14, Duff Morrow kf5vhy@yahoo.com [TS-520_820_530_830]
<TS-520_820_530_830@yahoogroups.com> wrote:

Subject: Re: [TS-520_820_530_830] Re: Ts 820s plate current
To: TS-520_820_530_830@yahoogroups.com
Date: Wednesday, May 28, 2014, 8:03 PM

Ok so I
bought this radio from a guy and he told me everything
worked and it was bench tested. I just sent him an email and
this is what he responded. "I generally tune for max
power out. When there’s max power out the plate is dipped

and the circuit is resonant. If you’re getting power out
you need to switch the rig to read Plate current I think
it’s called IC. But tune for max output that’s the real
way to make it rock!”
Im not sure what he is trying to say but if I try
to tune by the steps in the manual it doesn’t
work.
I thought one of you guys might be able to
translate. Haha
Duff KF5VHY

this post edited as it contained already posted
material
  73 Joe wb7uqu

48893. Re: [TS-520_820_530_830] ts 520s issue

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-29 02:06:04 UTC
From: david mcbragg
Topic: 48877 Message: 48893

Hi Bill that was it thanks boy I fell like the could of had a v8 guy tnx Dave ka8gcq

On Wednesday, May 28, 2014 7:48 PM, "Bill Houghton rdrbill@pacbell.net [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Try the simplest thing first.. sounds like you might have the RF gain turned all the way down.

73,

Bill, WA6NEQ

PS- done it myself, too.

On Wed, 5/28/14, bunnda61@... [TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com> wrote:

Subject: [TS-520_820_530_830] ts 520s issue
To: TS-520_820_530_830@yahoogroups.com
Date: Wednesday, May 28, 2014, 2:11 PM

Hi I am Dave ka8gcq I have a ts520s I have
had this one for 5 years. It is now having issues I need to
find out if anyone know what this problem is
I switch it on and the meter go`s all the way over and
there is no sound the lights come on . I do my own repairs
if I can I am thinking the power supply board but I am
asking for people that have more experience Thanks
Dave

48894. Re: [TS-520_820_530_830] Re: Ts 820s plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-29 11:34:25 UTC
From: Duff Morrow
Topic: 48880 Message: 48894

We'll I think I'm just going to get my money back on the rig. I was told everything's works and it was bench tested and tunes up great ect.

Thank you guys for all your help.

Duff Morrow KF5VHY

Moderator's Note:
Unnecessary portions have been removed

48895. Re: [TS-520_820_530_830] Re: Ts 820s plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-29 12:11:41 UTC
From: Mike W5RKL
Topic: 48880 Message: 48895

Duff,

I mean no disrespect but I do believe some of the problem is your lack of knowledge and experience. Unfortunately there are many new hams such as yourself who get in over their head by purchasing a Kenwood Hybrid such as the TS-820 as their first radio. Those new hams tend to lack the knowledge and experience to properly and safely operate these type of radios.Kenwood hybrids are not plug and play radios like modern day radio are, they require adjusting/tuning the controls in order for the radio to operate properly. If this is not something you are willing to do/accept then a Kenwood hybrid may not be the radio for you. You may be better off purchasing and operating a modern Plug and Play radio instead. Again, I mean no disrespect, just pointing out areas you may not have considered before you purchased the TS-820.

Good luck and congratulations on passing the General exam.

73
Mike W5RKL

On 5/29/2014 6:34 AM, Duff Morrow kf5vhy@... [TS-520_820_530_830] wrote:
> We'll I think I'm just going to get my money back on the rig. I was
> told everything's works and it was bench tested and tunes up great ect.
>
> Thank you guys for all your help.
>
> Duff Morrow
> KF5VHY
>
> Moderator's Note:
> Unnecessary portions have been removed
>
>

48896. Re: [TS-520_820_530_830] Re: Ts 820s plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-29 12:27:37 UTC
From: Ron
Topic: 48880 Message: 48896

If u want contact me off line at 270 -991-9777

Ron KK4PWF

On May 29, 2014, at 6:34 AM, "Duff Morrow kf5vhy@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
> We'll I think I'm just going to get my money back on the rig. I was told everything's works and it was bench tested and tunes up great ect.
>
> Thank you guys for all your help.
>
> Duff Morrow
> KF5VHY
>
> Moderator's Note:
> Unnecessary portions have been removed
>
>
>
>

48897. Re: [TS-520_820_530_830] Re: Ts 820s plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-29 13:07:41 UTC
From: Gregory Graham
Topic: 48880 Message: 48897

Duff
Take a deep breath and take some time to get comfortable with the 820S. I bought an 820S new when I passed my general and I still have it and love that radio. It took a little time to get familiar with tuning the radio, but after a little practice it is easy to do. There are people here that will walk you through it. It has great transmit audio an receives well. I have worked tons of DX with mine. It was foreign to me when I started but soon I was on the air and making contacts. There is a lot to learn about the radio and making an antenna system work for you. Not too much of a challenge but lots of fun. Good luck on your General an success on the air.

Gregory
NR6C

Moderator's note:
Unnecessary segments removed

48898. Re: [TS-520_820_530_830] Re: Ts 820s plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-29 13:22:05 UTC
From: Duff Morrow
Topic: 48880 Message: 48898
Attachments: 1 described; binary payloads are missing from this source WARC

Yeah I'm sure you are right Mike. No disrespect taken. Here is a quick vid of the issue. Mode is set to tune and plate current idle to 60ma.

Duff Morrow
KF5VHY

> On May 29, 2014, at 7:11 AM, "Mike W5RKL w5rkl@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:
>
> Duff,
>
> I mean no disrespect but I do believe some of the problem is your lack of knowledge and experience. Unfortunately there are many new hams such as yourself who get in over their head by purchasing a Kenwood Hybrid such as the TS-820 as their first radio. Those new hams tend to lack the knowledge and experience to properly and safely operate these type of radios. Kenwood hybrids are not plug and play radios like modern day radio are, they require adjusting/tuning the controls in order for the radio to operate properly. If this is not something you are willing to do/accept then a Kenwood hybrid may not be the radio for you. You may be better off purchasing and operating a modern Plug and Play radio instead. Again, I mean no disrespect, just pointing out areas you may not have considered before you purchased the TS-820.
>
> Good luck and congratulations on passing the General exam.
>
> 73
> Mike W5RKL
>
>
>
>> On 5/29/2014 6:34 AM, Duff Morrow kf5vhy@... [TS-520_820_530_830] wrote:
>>
>> We'll I think I'm just going to get my money back on the rig. I was told everything's works and it was bench tested and tunes up great ect.
>>
>> Thank you guys for all your help.
>>

>> Duff Morrow
>> KF5VHY
>>
>> Moderator's Note:
>> Unnecessary portions have been removed
>
>

48899. Re: [TS-520_820_530_830] Re: Ts 820s plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-29 14:12:06 UTC
From: w5rkl@...
Topic: 48880 Message: 48899

Duff, the video didn't make it. You can send it to my e-mail address, my call at yahoo dot com.

One thing I noticed is, you said the IP meter indicated zero when attempting to adjust the PLATE control for a dip. Now you say the IP meter indicates 60ma of idling current.

I recommend you have a look at Terry, K9TWs, website

www.k9tw.com http://www.k9tw.com

Click on the "HOW TO GUIDE" and follow the tune up steps on how to tune up a KW hybrid. Ignore the name "Peter", replace it with "your name".

73
Mike W5RKL

48900. Re: [TS-520_820_530_830] Re: Ts 820s plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-29 14:57:18 UTC
From: Joe
Topic: 48880 Message: 48900

Duff....I don’t remember what your original post stated as your issue...I think it was no meter movement? (At least, that’s what I got from the video) do I vaguely remember running into that issue with one of my early 820’s. Unfortunately, I don’t remember the solution, but I *do* remember it was an easy fix...Yeah, yeah...I know...easy for me...Nope...it truly *was* easy.....

Hope you can get it sorted out...The receiver is one of the best of the older radios....Don’t use mine all that much any more...Pretty well stay with my Drakes now, but the both my 820’s (one an ‘S’ the other a normal) get fired up periodically to keep them ‘sharp’.

Joe - W7RKN

From: mailto:TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830] Re: Ts 820s plate current

Yeah I'm sure you are right Mike. No disrespect taken. Here is a quick vid of the issue. Mode is set to tune and plate current idle to 60ma.

48901. Re: [TS-520_820_530_830] Re: Ts 820s plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-29 15:14:15 UTC
From: wagstw46@...
Topic: 48880 Message: 48901

Mike:

I need to add a statement about how to load in CW mode when it appears R5/R6 56k appear to be open (assuming SG switch is in ON position and is good). Just makes me a little nervous about telling new person how to "fly with the governor bypassed"!

As soon as I can find the time I will make a loading video and post it. I searched Ebay hoping to find a decent one to refer new folks to and very sad to say most are poor and some just flat wrong.

I hate it when someone flips to Send and then takes half hour to adjust the focus and lighting! OR I hate the discussions about how important it is to keep ALC in middle of black range and go back and check it and re-adjust it! OR I hate those who move the Drive control and/or Plate Load control as if they are level controls! Some of this is demonstrated by extra class holders. Fortunately the rig is pretty robust and you have to work to hurt it.

Terry K9TW

48902. Re: [TS-520_820_530_830] Re: Ts 820s plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-29 15:31:04 UTC
From: Mike W5RKL
Topic: 48880 Message: 48902

Terry,

Yes, I agree, kinda hard to take telling a newbie how to tune up a KW hybrid in CW mode especially if the person has no experience.

I now see Duff said he has 60ma idling current in sideband, something that was questionable before. That's what was confusing me, first there's no idling current then there's idling current then the video shows no idling current. Now he says he has 60ma idling current in sideband. I'm going to assume the 820 has 60ma idling current in USB or LSB mode.

Duff, have you elmer check the 2 resistors R5 and R6, on the HV Unit. They both are 56K 1/2 watt and if they are bad then you will experience this problem.

You will need to show him the 820's operator and service manuals. If you do not have the 820 service manual, you can download it at my website

www.w5rkl.com

in the manuals and documents page.

73
Mike W5RKL

On 5/29/2014 10:14 AM, wagstw46@... [TS-520_820_530_830] wrote:
>
> Mike:
>
>
> I need to add a statement about how to load in CW mode when it appears
> R5/R6 56k appear to be open (assuming SG switch is in ON position and
> is good). Just makes me a little nervous about telling new person how
> to "fly with the governor bypassed"!
>
> As soon as I can find the time I will make a loading video and post
> it. I searched Ebay hoping to find a decent one to refer new folks to
> and very sad to say most are poor and some just flat wrong.
>
> I hate it when someone flips to Send and then takes half hour to
> adjust the focus and lighting! OR I hate the discussions about how
> important it is to keep ALC in middle of black range and go back and
> check it and re-adjust it! OR I hate those who move the Drive control
> and/or Plate Load control as if they are level controls! Some of this
> is demonstrated by extra class holders. Fortunately the rig is pretty
> robust and you have to work to hurt it.

>
> Terry K9TW
>

48903. Re: [TS-520_820_530_830] Re: Ts 820s plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-29 15:46:20 UTC
From: Duff Morrow
Topic: 48880 Message: 48903

Ok Mike thanks for all your help and everyone else.

Duff Morrow KF5VHY

Moderators Note:

Yes, Duff, have your Elmer check R5 and R6 on the HV Unit board, NOT the Rectifier Unit board. Show him the 820 service manual so he knows which board to look for. The HV Unit board is a small board located below the chassis between the power transformer and the 2 HV filter capacitors. Show your Elmer the pictures in the 820 operator's manual titled

"Bottom view of the TS-820S"

I have removed comments that are not needed.

73
Mike W5RKL
Moderator

48904. Re: [TS-520_820_530_830] Re: Ts 820s plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-29 18:06:01 UTC
From: Duff Morrow
Topic: 48880 Message: 48904

Just an update. You guys were right. Both r5 and r6 are bad. That should fix the problem once I get replacements. Thanks for the help.

Duff Morrow KF5VHY

this post edited, as it contained already posted material. REMEMBER: you do not need to include
prior posts/msgs. Doing that is a waste of time and available space. Please check your email adjustment(s) or read the tutorial available to everyone, regarding responses/posts in the " ? " (help)
area of your "yahoo" screen.

TNX n 73 Joe WB7UQU
Group Co-owner

48905. Re: [TS-520_820_530_830] Re: Ts 820s plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-29 18:49:58 UTC
From: Mike W5RKL
Topic: 48880 Message: 48905

Duff,

I see you have found both R5 and R6 on the HV Unit board to be bad. You can probably find those resistors at Radio Shack, they are 56K 1/2 watt resistors. The color bands around the resistors will be

GREEN BLUE ORANGE and maybe SILVER or GOLD as a tolerance color

GREEN is 5
BLUE is 6
ORANGE is 1,000

Therefore GREEN/BLUE/ORANGE is 56,000 ohms with either SILVER or GOLD tolerance band.

The tolerance band colors are

SILVER = 10%
GOLD = 5%
No color band = 20%

If you plan on performing any service to your ham gear you need to learn these things. You also will need to learn basic electronics and you won't learn that by simply asking a few question. You will have to spend time, a minimum of an hour a day, studying basic theory. You will also need to learn basic vacuum tube theory. You can down load a very good vacuum tube theory book, pdf format, from my website's Manuals and document's page, titled,

"Inside the Vacuum tube"

Vacuum tube theory is also provided in the Tube Manuals I have on my website so feel free to download them as well.

Also look for older editions of the ARRL Handbook, 1968 or older editions.

Another good book, my favorite,

"Basic Radio Course"
by John T. Frye

This book is out of print but you can find it on the web, sometimes "used" at Amazon.com. There's an seller on eBay selling the 1951 edition on a CD for $9.99. Well worth the price. You also might look at used book stores and your local library, either place may have it. I have the 1961 hard cover edition plus I bought the eBay seller's CD. I compare both copies and found the only difference between the 2 are

1. The eBay CD edition doesn't have the solid state transistor section
2. The make and model of the test gear is different/older than the 1961 edition

73
Mike W5RKL

48906. Re: [TS-520_820_530_830] Re: Ts 820s plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-30 01:10:24 UTC
From: wagstw46@...
Topic: 48880 Message: 48906

Duff:

Just make sure your Elmer helps you replace both of them. It is common for one to go open or very high and the other to measure OK, but it is good practice to replace both while you are there and I would use Metal Film or Metal Oxide and not Carbon resistors.

Terry K9TW

48907. TS-530S alignment step question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-30 06:47:20 UTC
From: louis.wilen@...
Topic: 48907 Message: 48907

Quick question about the alignment instructions for a TS-530S:

Alignment step 5, VFO, RIT check and adjustment. This step says to connect the RF VTVM to "Pin 1, connector 6, 2P (GND)". I understand what "Pin 1, connector 6" means, but I'm confused about "2P(GND)".

What is "2P(GND)"?

Louis
W3LMW

48908. Re: TS-530S alignment step question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-30 11:26:42 UTC
From: wagstw46@...
Topic: 48907 Message: 48908

Louis

Just ignore it. It means that the No 2 or center pin of Conn 6 is ground point they are using for this measurement and adjustment. On the TS-830 they show 1P(GND) for the ground connection. You can read any ground point including chassis ground and it wont make any difference on reading the VFO output level on the PLL board.

Ordinarily for measuring RF voltages on the various PC boards good practice would be to use a ground connection as close to your measuring point that you can. Most RF millivolt meters supply a probe tip that has a ground prod close to the measuring prod (almost impossible to use them due to component density) and usually also have very short ground leads. This is because they are capable of measuring high frequencies, but at the frequency of the TS530 VFO this is not critical.

If you look at my website will see how I removed the factory short ground lead on my Boonton and added a more practical ground lead since I am not making any RF measurements above approx 30mhz.

In my personal TS830s I have also installed some additional grounding points. In some cases can do that without lifting boards and installing them at thru hole spaces available on the board ground plane by using old fashioned solder lugs bent at angle. Place them under the board hold down screws and will have a nice place to clip mini-grabber test lead. I do it as matter of convenience and not so much to worry about accuracy or mv differences in the ground plane.

The output should be set to 200mv +/- 1dB which means 178mv to 224mv rms.

You can set it to 200mv and then move your RF probe ground lead to various locations and repeat and should see no appreciable change in voltage reading.

Terry K9TW

48909. Re: TS-530S alignment step question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-30 13:40:29 UTC
From: louis.wilen@...
Topic: 48907 Message: 48909

Thanks Terry. That clears things up.

Louis
W3LMW

48910. Re: [TS-520_820_530_830] Re: Ts 820s plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-30 17:56:49 UTC
From: kf5vhy@...
Topic: 48880 Message: 48910

Everything is fixed now and is up and running. Thank you Terry, Mike and others. I really didn't want a plug and play to be my first HF rig. I want to be a real ham operator. With supervision, I desoldered the old resistors and soldered the new ones. I am glad there is a group like this to guide in the right direction. I will take Mike's advice about studying vacuum tubes and basic electronics. I am 28 years old and not one of the guys that thinks they know it all.

Thanks Again

Duff Morrow
KF5VHY

48911. Re: [TS-520_820_530_830] Re: Ts 820s plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-30 19:36:13 UTC
From: Joseph Stiles
Topic: 48880 Message: 48911

Duff,

  Well done! I find your comments refreshing and, I hope you continue being a part of this group...lots of "stuff" to learn.

Maybe, before too long...we can call you an "old Duff?" hihi

73 Joe
WB7UQU

On Friday, May 30, 2014 12:30 PM, "kf5vhy@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Everything is fixed now and is up and running. Thank you Terry, Mike and others. I really didn't want a plug and play to be my first HF rig. I want to be a real ham operator. With supervision, I desoldered the old resistors and soldered the new ones. I am glad there is a group like this to guide in the right direction. I will take Mike's advice about studying vacuum tubes and basic electronics. I am 28 years old and not one of the guys that thinks they know it all.
>
>Thanks Again
>
>Duff Morrow
>KF5VHY
>
>
>

48912. Re: [TS-520_820_530_830] Re: Ts 820s plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-30 21:16:56 UTC
From: Mike W5RKL
Topic: 48880 Message: 48912

Congratulations Duff for fixing your 820. You might want to jot down this fix so you will have it for future reference. It's easy to forget. I'm 65 years old and I forget what I did to fix a problem I experienced before. I think they call that a "Brain Fart".

Remember, tune up into the dummy load FIRST then switch to the antenna.

You don't need an expensive antenna to get on the air. Try 40 meters, it's open all the time. A simple dipole cut for the middle of the band then trimmed for the lowest SWR will work fine. If you don't have much room, mount it as an "inverted vee" strung over a tree limb. Get it as high as possible. I use an inverted vee hanging from a pine tree limb, 25 feet above ground, fed with RG-8x. SWR is 1.2 to 1 and I work almost any station I can hear, even Japan early in the morning. I operate CW on the low end of 40 at 90 watts from a Drake B or C Line, no tuner, connected direct to the antenna. You don't need a lot of power. The most important item in your ham station is your antenna. You can feed 1KW into a bed spring and not talk beyond your state line but feed 25 to 50 watts into a well designed antenna system and you will work DX and lots of stateside stations than you can handle!! I operate low power on 40 with a Heathkit DX-40/HG-10B VFO and an SB-300 receiver. The DX-40 produces about 40 watts to the antenna and it fun working low power. I also work low power on 10 meter AM, 29.0Mhz using a Johnson Messenger 223 I converted to 10 meter AM and changed it to VFO control (N3ZI DDS2 VFO). I worked Italy earlier this year before the band bit the dust using the Messenger 223. The antenna is a simple home made 10 meter inverted vee up about 20 feet.

Once you get use to tuning the 820 you'll be tuning up much faster.

73
Mike W5RKL

On 5/30/2014 12:56 PM, kf5vhy@... [TS-520_820_530_830] wrote:
>
> Everything is fixed now and is up and running. Thank you Terry, Mike
> and others. I really didn't want a plug and play to be my first HF
> rig. I want to be a real ham operator. With supervision, I desoldered
> the old resistors and soldered the new ones. I am glad there is a
> group like this to guide in the right direction. I will take Mike's
> advice about studying vacuum tubes and basic electronics. I am 28
> years old and not one of the guys that thinks they know it all.
>
> Thanks Again
>
> Duff Morrow

> KF5VHY
>
>

48913. Re: [TS-520_820_530_830] Re: Ts 820s plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-30 21:45:04 UTC
From: Joe
Topic: 48880 Message: 48913

As I say...frequently....”As I get older, The only thing that keeps gittin’ better, is my forgetter!”

Joe - W7RKN

From: mailto:TS-520_820_530_830@yahoogroups.com

Subject: Re: [TS-520_820_530_830] Re: Ts 820s plate current

Congratulations Duff for fixing your 820. You might want to jot down this fix so you will have it for future reference. It's easy to forget. I'm 65 years old and I forget what I did to fix a problem I experienced before. I think they call that a "Brain Fart".

48914. Re: [TS-520_820_530_830] Re: Ts 820s plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-30 19:49:19 UTC
From: Henry Stephan
Topic: 48880 Message: 48914

Hi Duff

I have been watching your trials and progress from a distance and I just want to say: Very Well Done!!!

You have achieved far more (of course with the help of Terry, Mike and others) under difficult and trying circumstances, than many other hams.

Enjoy our hobby, it is special and most rewarding.

Best 73

Henry de ZS6MC (South Africa)

Sent from H's iPad

this post edited as it contained already posted material..Joe-wb7uqu

48915. Re: [TS-520_820_530_830] Re: Ts 820s plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-30 23:50:59 UTC
From: Bill Houghton
Topic: 48880 Message: 48915

Hi Duff,

Glad to hear that its up and running and didn't take too much to get it going. Have fun and hope to hear you on the air!

73,

Bill, WA6NEQ

On Fri, 5/30/14, kf5vhy@yahoo.com [TS-520_820_530_830]
<TS-520_820_530_830@yahoogroups.com> wrote:

Subject: Re: [TS-520_820_530_830] Re: Ts 820s plate current
To: TS-520_820_530_830@yahoogroups.com
Date: Friday, May 30, 2014, 10:56 AM

Everything is fixed now and is up and running.
Thank you Terry, Mike and others. I really didn't want a
plug and play to be my first HF rig. I want to be a real ham
operator. With supervision, I desoldered the old resistors
and soldered the new ones. I am glad there is a group like
this to guide in the right direction. I will take
Mike's advice about studying vacuum tubes and basic
electronics. I am 28 years old and not one of the guys that
thinks they know it all.

Thanks Again

Duff Morrow
KF5VHY

48916. Re: [TS-520_820_530_830] Re: Ts 820s plate current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-31 14:35:33 UTC
From: wagstw46@...
Topic: 48880 Message: 48916

Duff:

I dont mind so much getting forgetful in my old age (37 my next birthday!). What I do mind is finding out that things that I knew with 100% certainty to be true turned out to be false! Pity the poor Flat-Earthers!

In your study of fundamental electronics and basic radio communications you will have to accept some things on faith and it may take years before you have an "Ah-hah" moment.

The other thing I hate is to see people (supposedly knowledgeable and experienced) demonstrate something wrong and do so in a very confident manner! See this on You Tube. Like all info on the internet it is a challenge to sort out the good from the not so good and the just plain wrong. For my money you will serve yourself well if you come to this Reflector for KW hybrid help. If someone bum dopes you here there will always be someone to challenge it in professional way. This is not an easy medium to troubleshoot a technically complex machine. Understanding what the person is seeing and reporting is often about half the battle.

With the attitude you have expressed all you need to complement it is interest (better yet passion), a questioning attitude, work ethic, a little aptitude, and 50 more years! OK maybe not that long, but point is it is a life long pursuit and takes time. I am 50 plus years in the hobby and over 10 years a KW Hybrid repairman and still learning.

Of course if you intend to be your own repair man then along the way you will have to start building a modest test bench (starting with VTVM & rf probes, RF Sig Gen, and Freq Counter).

Just be very careful under the hood of your TS-820.

Have Fun

Terry K9TW

48917. Re: TS-520 Power Out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-05-31 18:07:07 UTC
From: chastizer4@...
Topic: 48796 Message: 48917

Wally, I have been playing with the Oscope and got about 20mV on TIF using the .1 microsecond setting on 40 meters. I don't see OSC on the RF board. Is that OX or OL perhaps? Separate question... In double checking R5&6 on HV board (seeing 65K and 82K - going to replace them) I find R7 which is a 12K across TUN and 210. This doesn't show up on the schematic. Do you know if this was an add-on for a later release? Serial # 360268. Thanks, Charlie - AC6ZX

48918. Re: TS-520 Power Out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-01 13:02:36 UTC
From: wagstw46@...
Topic: 48796 Message: 48918

Charlie:

Not trying to step on Wally Docs thread, but it appears you are trying to run the TX Level Diagram and may be stalled waiting for a response. My bench is cleared until Monday so here is my 2 cents worth.

Are you following the Figure 14 procedure in the Service Manual? Normally you would load to approx 100 watts out at 14.175mhz and then turn off the SG switch and take the rf voltage measurements. If you cannot load to that level then load as high as you can and proceed.

The next place to measure TIF signal is at TP-2 on RF board. You should see approx 250mv rms at TP-2. If you have TIF to the RF board very unlikely will not have it at TP-2. Can be low if someone has messed with T1 slug. After that move on to MD. This is the output of the TX Mixer and the first place where you will see actual transmit output frequency. This is the rf drive that is applied to the control grid of the 12BY7A driver tube. At MD should see approx 2.0 to 2.5rms volts of rf drive or 5.6 to 7.0 volts Peak-to- Peak on your O-scope.

There is no RF board test point labeled OSC?

I suspect Wally Doc was trying to direct you to check the LO (local oscillator) level to the TX Mixer? The Het Osc provides the LO signal for both the Rx and Tx Mixers. No LO signal means no RF output from the TX Mixer. This does not happen often.

Assuming he was trying to direct you to the Het Osc you can measure the output at TP-3 on the RF board. It will be around 1.0 rms volts and rare for it to be missing on all bands. Common to be low or missing on 1 or 2 bands due to someone setting the Het Osc coils on the fast side of the response curve peak. If you do that the oscillator may not start reliably. I wouldnt mess with Het Osc unless you are doing an alignment or you find you have no RF drive at MD on a particular band. If you find the Het Osc level is good and no RF drive at MD then need to take DGGS dc voltage measurements at Q3. Seldom for the dual gate mosfet to fail, but can have problems with switching bias. If Source lead measures close to Drain then device is shorted.

As for R7 are you sure the rig you have isnt a TS520S? OR maybe someone swapped HV unit boards?

Terry K9TW

48919. Re: TS-520 Power Out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-01 15:12:11 UTC
From: wallydoc@...
Topic: 48796 Message: 48919

Charlie and Terry: Terry is right, My nomenclature is often wrong.
If you measure these things, you will get a better understanding of what is going on.
Or is supposed to go on.
Follow Terri's instructions.
I don't remember, does your scope have a freq counter?Sometimes it's helpful to measure the freq of the signals you are measuring.
Wally KC9INK

48920. HYBRID NET UPDATE (June 1, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-01 19:18:28 UTC
From: Mark Gilger
Topic: 48920 Message: 48920

```
Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHo
mePage.htm
```

The net recently celebrated it□s 2nd year in existence on November 1st, 2013. The yearly check-in totals are posted at the bottom of this message. It showed we had a 10% increase in our Saturday check-ins and an 8% on Sunday as compared to the 2012 check-ins.

The Saturday□s net was run by, me, WB0IQK. There were 19 stations checking in under good band conditions. We had the following number of radios checking in.

```
2 running TS-520(x)
4 running TS-530(x)
2 running TS-820(x)
1 running TS-830S

The reset were running non Kenwood hybrid equipment.

I was running his TS-940s and my Drake L4B amplifier.

The Sunday net was run by me, WB0IQK. There were
11 stations checking in under poor band
conditions. We had the following number of radios checking in.

3 unning TS-520(x)
0 running TS-530(x)
1 running TS-820(x)
2 running TS-830S
1 running TS-510

The reset were running non Kenwood hybrid equipment.

I was running my TS-820s twins (TS-820S + R820).
```

We have been having several people checking in regularly with their TS-430, TS-440, and TS-940□s, which of course is not a hybrid, although over 30+ years old. Everyone is welcome as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a net control station, please send me an email. Currently it's just myself, WB2KNR and WB0SGA. I would like to get several more. If we do, we can alternate so everyone might be on a 3-4 week rotation. It's a lot of fun and a good way to make sure you station is optimized.

For anyone that has not heard, we have a new web site that WB4HFN is hosting. He currently has a very nice site for Drake, Collins and Heathkit and now Kenwood Hybrids. Good quality manuals plus sale flyers and brochures will be found here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 ☐ Oct. 2012 Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins

November 2013, Saturday☐s net total = 94, Sunday☐s total = 85
December 2013, Saturday☐s net total = 87, Sunday☐s total = 103
January 2014, Saturday☐s net total = 71, Sunday☐s total = 82
February 2014, Saturday☐s net total = 80, Sunday☐s total = 85
March 2014, Saturday☐s net total = 82, Sunday☐s total = 73
April 2014, Saturday☐s net total = 64, Sunday☐s total =43
May 2014, Saturday☐s net total = 66, Sunday☐s total = 35 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

48921. Re: TS-520 Power Out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-01 20:19:08 UTC
From: wagstw46@...
Topic: 48796 Message: 48921

Wally:

Did not want to butt in, but looked like Charlie was stalled and I know how that can be frustrating waiting for the next step. Wasnt sure if you were going to respond to him.

Not criticizing you just trying to help translate for Charlie. I thought I understood what you meant, but not sure Charlie did.

Will back away and let you run with this problem now that I know for certain you are following it. I have enough to do. Always available if anyone gets stuck.

Terry K9TW

48922. TS-520 Pre-emptive Maintenance?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-01 19:28:31 UTC
From: WQ8Q
Topic: 48922 Message: 48922

I'm new to the Kenwood hybrid game, (and this forum) but not to radios. I managed to ruin a few Heathkits back in the day.

I picked up a "non-working" TS-520 at Dayton. The rig looked as if it had just been sitting on a shelf in a shack for a long time.Except for the first few letters of the name Kenwood being half rubbed away, there is hardly a mark on it.The phillips screws weren't even boogered up -- they looked like they'd never been removed!Brought it home and hooked it up. I got it to receive somewhat scratchily by wiggling the bandswitch.

I took DeOxit to the bandswitch and all the noisy controls. Cleaned and lubed the fan and blew out the interior. Then the receive worked just fine.Tried to tune up into a dummy load and had a problem there . . . took out the relays and cleaned them and more DeOxit.Everything tuned up just fine.Full power out on 40 and 20 (which is all I tried).Everything looks good on the SM-220 (which I also picked up in Dayton -- in its original packaging!Now I've got a total of $150 invested in both pieces -- you can make good deals when it's cold and hail is falling)

So, I've been using it for a week on CW (sideswiper) and SSB (MC-60A) and getting great reports. I even checked into the Saturday Kenwood Hybrid net. I'm having so much fun that my Elecraft K2/100 I built ten years ago is now sitting lonely on its own little shelf.

So, here is my question:Leave well enough alone and keep operating?Or investigate a little further and maybe change out the big caps?Pre-emptive maintenance?Anything else to look for?

73 de Rick WQ8Q

48923. Re: [TS-520_820_530_830] TS-520 Pre-emptive Maintenance?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-01 21:02:25 UTC
From: Wes Will
Topic: 48922 Message: 48923

> So, here is my question:Leave well enough alone and keep operating?Or
> investigate a little further and maybe change out the big
> caps?Pre-emptive maintenance?Anything else to look for?

You've DONE the 'pre-emptive maintenance.' DUDE, leave it alone!

Here's to a great deal on a fantastic rig. You done good. No, GREAT.

If the thing has a full 100 W out on all bands, and receive is clean, you're getting good reports on the signal quality, then the WORST thing you can do is to open it up and fiddle.

Have you gotten all the documents for it? The service manual, the owner's manual, and a high-resolution scan of the schematic, for when something does go wrong? Get those, peruse to familiarize yourself, and enjoy the great deal you managed to grab. These beauties are going for three and more times the price you spent total.

Be thankful for your fantastic luck.

--
Wes Will
SysAdmin

48924. Re: [TS-520_820_530_830] TS-520 Pre-emptive Maintenance?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-01 21:05:09 UTC
From: Gordon JC Pearce
Topic: 48922 Message: 48924

On Sun, Jun 01, 2014 at 04:02:25PM -0500, Wes Will wwill@... [TS-520_820_530_830] wrote:
>
> > So, here is my question:Leave well enough alone and keep operating?Or
> > investigate a little further and maybe change out the big
> > caps?Pre-emptive maintenance?Anything else to look for?
>
>
> If the thing has a full 100 W out on all bands, and receive is clean,
> you're getting good reports on the signal quality, then the WORST thing
> you can do is to open it up and fiddle.

Yeah, don't do any Provocative Maintenance.

--
Gordonjcp MM0YEQ

48925. Re: [TS-520_820_530_830] TS-520 Pre-emptive Maintenance?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-01 23:05:17 UTC
From: Joseph Stiles
Topic: 48922 Message: 48925

Rick,

You sure did score!
You have cleaned switches, pots, bandswitch wafers..etc....rig sounds like it's working good...let itbe...but with one observation: keep an eye on the high voltage reading. Anything more than around a 10% drop in HV... when keyed (CW)..may indicate weak/failing HV capacitors. You should see around 750+VDC at max output. I take it that you inspected them..to see if they may have started to bulge, or worse...leak.

Other than that...use it and have fun!

73 Joe
WB7UQU

On Sunday, June 1, 2014 2:04 PM, "Gordon JC Pearce gordon@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>On Sun, Jun 01, 2014 at 04:02:25PM -0500, Wes Will wwill@... [TS-520_820_530_830] wrote:
>>
>> > So, here is my question:Leave well enough alone and keep operating?Or
>> > investigate a little further and maybe change out the big
>> > caps?Pre-emptive maintenance?Anything else to look for?
>>
>>
>> If the thing has a full 100 W out on all bands, and receive is clean,
>> you're getting good reports on the signal quality, then the WORST thing
>> you can do is to open it up and fiddle.
>
>Yeah, don't do any Provocative Maintenance.
>
>--
>Gordonjcp MM0YEQ
>
>
>
>
>

48926. Re: [TS-520_820_530_830] TS-520 Pre-emptive Maintenance?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-02 07:14:04 UTC
From: Ron
Topic: 48922 Message: 48926

Like the others said. If its not broke don't fix it Enjoy it ! Bb

Ron KK4PWF

On Jun 1, 2014, at 6:05 PM, "Joseph Stiles stilesjoseph@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
> Rick,
>
> You sure did score!
> You have cleaned switches, pots, bandswitch wafers..etc....rig sounds like it's working good...let it be...but with one observation: keep an eye on the high voltage reading. Anything more than around a 10% drop in HV... when keyed (CW)..may indicate weak/failing HV capacitors. You should see around 750+VDC at max output. I take it that you inspected them..to see if they may have started to bulge, or worse...leak.
>
> Other than that...use it and have fun!
>
> 73 Joe
> WB7UQU
>
>
> On Sunday, June 1, 2014 2:04 PM, "Gordon JC Pearce gordon@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:
>
>
> On Sun, Jun 01, 2014 at 04:02:25PM -0500, Wes Will wwill@... [TS-520_820_530_830] wrote:
> >
> > > So, here is my question:Leave well enough alone and keep operating?Or
> > > investigate a little further and maybe change out the big
> > > caps?Pre-emptive maintenance?Anything else to look for?
> >
> >
> > If the thing has a full 100 W out on all bands, and receive is clean,
> > you're getting good reports on the signal quality, then the WORST thing
> > you can do is to open it up and fiddle.
>
> Yeah, don't do any Provocative Maintenance.
>
> --
> Gordonjcp MM0YEQ
>
>

>
>
>
>

48927. Re: TS-520 Power Out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-02 10:43:58 UTC
From: wallydoc@...
Topic: 48796 Message: 48927

Charlie: Do you have signals at TIF and at grid of the driver?
TIF freq.should vary with VFO.
Is the signal at grid of driver (pin 2) the proper RF Frequency? This should vary by band and VFO tuning. It is your transmit freq.
What is the driver output? pin 7, DP and DRV are all driver output. This goes to the final grids and can be measured there also.
Driver output should be a big signal, 10-15V Peak to peak, if I remember correctly
Scope should be on AC, please.

Let me know.
Wally KC9INK

48928. Re: TS-520 Pre-emptive Maintenance?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-02 11:31:40 UTC
From: wallydoc@...
Topic: 48922 Message: 48928

Rick: The advice everyone is giving you is correct.
Leave the electronics alone.
Read this group from time to time.
Make some notes on where to get parts, esp big caps. Sometimes you cannot get the originals, but there is room in the chassis to put replacements.
Maybe pick up some spare tubes at a hamfest, I picked up perfectly good used finals for $5 each.
Read something about the various tubes available, and make up your own mind first.
You may want to experiment with different higher impedance mics, another hamfest acquisition, along with a few four pin connectors. (I picked up a Heil dynamic mic for $5).
If you have to do something put a drop of oil on each retaining screw on the knobs, in case you have to remove them at a later time. If you get good output and no carrier on SSB, the thing is aligned fine.
Wally KC9INK

48929. Re: TS-520 Power Out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-02 13:14:51 UTC
From: wagstw46@...
Topic: 48796 Message: 48929

Wally Doc

This really pains me and frankly frustrates me and makes me a little angry that I am the only one willing to speak up. I dont understand why everyone else sits in silence? We are not talking nits here. This goes beyond using the correct trade parlance.

I am trying to be nice to you, but you make it very hard. We have had this discussion before and I try to do it in a non biting manner. I really should not have to do it at all. However, I cant just sit here and let you bum dope Charlie. It also puts Charlie and others like him in a hard place to be in the middle of sorting out good counsel from not so good and from the flat wrong.

Your counsel goes far a field from just being a problem with "nomenclature". This is NOT about meeting my expectations or standards. This is a technical forum and I am proud to be a contributing member. We can all make mistakes or have typos from time to time, but what you present goes beyond that.

1.There is NO Transmit Intermediate Frequency (TIF) signal at the control grid of the Driver Tube. You will find no 8mhz at control grid of the Driver tube. There is actual transmit frequency at the control grid of the 12BY7A driver tube. The transmit frequency that is indicated on the VFO dial.

2. There is seldom any reason to measure the frequency of the TIF signal when troubleshooting loss of rf drive or low rf drive. I cant remember last time I had to do that. With the VFO in middle of range and you measure TIF rf voltage level and find it to be within spec you know that the TIF frequency has to be very close to 8.595mhz.

If Charlie had no or very low TIF signal level at the input to the RF board then he would go back in the chain and measure the rf voltage level at the input to the TX Band Pass Filter (BPF) on the IF board and if he had TIF signal there (approx 600mv) then he might suspect someone had grossly mis-adjusted the TX BPF coils. That does not occur often.

Charlie has already reported he has approx 20mv of TIF at the input of the RF board. That means that the TX Band Pass Filter (BPF) is tuned reasonably close. If he wants to see what his rf drive signal frequency is at MD test point and has no frequency counter he can listen to it on a separate receiver and see if it is close to where his VFO is set. There really is not much need to do that at this point. He needs to run TX Level diagram and where he finds RF drive voltage does not meet spec then see if he is missing a LO signal or if the dc voltages are wrong at an active device.

3. Wally there is absolutely no reason for you to provide RF drive levels from your memory unless you are an experienced KW TS-520 repairman. Experience would tell you that you would never normally expect to find 10v to 15v P-P at the plate of the Driver tube. The Service Manual TX Level Diagrams should be consulted as I have already mentioned to Charlie. The RF drive at the control grids of the finals should be approx 46.0rms or 130v P-P and the RF drive voltage at the plate of the 12BY7A driver tube should be approx 58.0rms or 164v P-P. You are off by an order of 10x.

I have these values burned into memory from having done very large number of rigs, but I seldom quote them to anyone from memory. It only takes a minute to consult the Service Manual or your notes to confirm what a design parameter is. In addition to note books I use a 3x5 card file with things like RF drive levels, Driver Tube dc voltages, TX Mixer dc voltages (actual measured values from properly performing radio).

Wally this is last time I will attempt to help you. I challenge the rest of you not to just sit on the side line when technical direction being provided by anyone is not correct. We all owe it to Charlie and other new KW hybrid owners who need the help. We also owe it to Wally.

When I bum dope (and I have) I expect someone to question and challenge. If that does not occur then what is the point of this group?

Terry K9TW

48930. Re: TS-520 Power Out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-02 13:40:43 UTC
From: wallydoc@...
Topic: 48796 Message: 48930

Terri,
I did not say that TIF was at the driver

48931. Re: TS-520 Power Out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-02 13:51:38 UTC
From: wallydoc@...
Topic: 48796 Message: 48931

Sorry folks, having trouble seeing my typing, seems to be high on the screen behind something.
I am having trouble responding, the typing is not lining up on the page.
Terri:
I did not say that TIF is at the driver tube,
I said nothing about 8 MHZ
Where are you getting this from?
Pardon me if I do not respond to every part of your last message, I really do not wish to take the time to engage in this unproductive conversation.
Wally

48932. Re: TS-520 Power Out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-02 14:11:53 UTC
From: wagstw46@...
Topic: 48796 Message: 48932

OK I stand corrected. I am wrong on that point.

Carry on.

Terry K9TW

48933. Re: TS-520 Power Out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-02 14:47:15 UTC
From: wagstw46@...
Topic: 48796 Message: 48933

I apologize to all members who I admonished not to sit in silence when bum doping is occurring.

Like Wally "Doc" I must have been having trouble reading some of the typing on my screen as well.

Charlie my apology to you for putting you in a place where you have to sort out the correct from the wrong. Follow the TX Level Diagram in your service manual and you cant go wrong.

Hope all will have a great day.

Terry K9TW

48934. Re: TS-520 Pre-emptive Maintenance?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-02 10:06:51 UTC
From: wq8q@...
Topic: 48922 Message: 48934

Thanks for all the advice, guys . . . I guess I had better leave well enough alone, although I will keep my eye on the HV meter and make a visual inspection of the HV caps.

One thing I did discover - I dug out an Idiom Press SCAF filter from the closet and hooked that up between the TS-520 and my go-to Ten-Tec 307 speaker and that really cleans up the QRM, especially on CW.
And, just for fun, I plan to use the 520 in this week's SKCC weekend sprint.

73 de Rick WQ8Q

48935. Re: [TS-520_820_530_830] Re: TS-520 Pre-emptive Maintenance?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-02 18:09:42 UTC
From: John Davidson
Topic: 48922 Message: 48935

Rick, do you have the optionl CW filter. I ordered my 400 HZ Kenwood filter the first day I had my new TS520 home from the store ! Working CW with the SSB filter, at least for me, was near impossible when the bands were open !!!!
I Added the outboard Autek Research QF-1 filter next and that was worth it's weight in GOLD !
73, K8JD

On Monday, June 2, 2014 1:18 PM, "wq8q@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Thanks for all the advice, guys . . . I guess I had better leave well enough alone, although I will keep my eye on the HV meter and make a visual inspection of the HV caps.

One thing I did discover - I dug out an Idiom Press SCAF filter from the closet and hooked that up between the TS-520 and my go-to Ten-Tec 307 speaker and that really cleans up the QRM, especially on CW.
And, just for fun, I plan to use the 520 in this week's SKCC weekend sprint.

73 de Rick WQ8Q

48936. Re: [TS-520_820_530_830] Re: TS-520 Pre-emptive Maintenance?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-02 22:39:46 UTC
From: wq8q@...
Topic: 48922 Message: 48936

John, I found a CW filter for the 520 and it will be here this week . . . so between that and the SCAF filter I should pretty much have things in hand.
I love my K2/100 (loaded) that I built, and I'll probably never sell it because I built it, but the little knobs and buttons aren't that much fun and I really don't like the sound of DSP processing that much. Sort of an old school guy I guess.
One thing you may find amusing, in the original TS-520 QST Review (Sep '74) the author says: "Placement of the various controls proved both convenient and comfortable for operation. While some are very closely spaced on the front panel, no difficulty was experienced in using the system."
I wonder what he would say about today's rigs.
73 de Rick WQ8Q

48937. Re: [TS-520_820_530_830] Re: TS-520 Pre-emptive Maintenance?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-03 01:05:58 UTC
From: Jim Costanzo
Topic: 48922 Message: 48937

Rick,

I owned a TS-520S in the early 80's with a CW filter that was sweet. The filter makes a huge difference. Good luck with yours.

I just got out my TS-830S after being in mothballs for the last 14 years. I purchased it new in 1986 and it still puts out an excellent signal with the original tubes.

73,

Jim KI4VH

48938. How to turn down output power

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-03 00:01:11 UTC
From: anthonypnsr@...
Topic: 48938 Message: 48938

Hi my name is Tony KM4ALD I recently picked up a Ameritron AL 82 Linear Amplifier and im not quite sure how to turn down the output power on my TS 820 s any suggestions?

48939. A question for the group regarding unused rigs.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-03 03:54:17 UTC
From: Wes Will
Topic: 48922 Message: 48939

> ... after being in mothballs for the last 14 years....

I'm not hoping for replies, not to the list anyway. Just some thinking.

I keep seeing similar postings, time and again, on this and several other radio lists and forae which I read.

"I have eight other radios in storage...."

"... only pull these three radios out about once a year each, to blow the dust off of them...."

"The other five rigs I don't use any more, they've been in the closet for about ten years now..."

Being the country mouse here (and almost everywhere else in the Ham world) I congratulate you all on your obvious good fortune and financial acumen.

But I am forced to wonder a little: Just how many NEW hams would benefit from the CONTROLLED and CAREFUL loan of one or more of these dozens and dozens, hundreds without a doubt, older radios, along with the mentoring which could come along with it? If you so chose?

I know the statistics show more licenses now that the FCC has watered things down to cater to the least common denominator. But that doesn't mean that some of us can't try to force that "least" level up a few steps, at least locally.

Just a thought. If you happen to have a radio you're never going to use again, please consider other options than selling it on e-Bay or out of the tailgate of your pickup truck to a complete stranger from perhaps all the way across the country.

Nothing wrong with being from "across the country," don't get me wrong there. Nor in selling used kit at a profit.

But is there possibly some punk kid in your home area, who would dearly love to get involved, but just can't make the piles of wonga needed to buy new equipment? Maybe sell it on terms over time, and teach the punk how to use it?

Could be a good time at an antenna party and barbecue later, when the punk gets his ticket. We used to do that for people when they upgraded, come over for a small bash and help run in the new antenna or three (multiband trapped long-wires are easy enough to make) so they can use their new license privileges. After they get the rib grease off their fingers, anyway.

I wonder what ever happened to that habit?? Ticket upgrades used to be a great excuse for a party. A new Novice license was always a great reason for some creative kit bashing and a lot of good food and camaraderie. (It lets all of the non-ham spouses have a chance to compare notes, too. Expect new ways to be lambasted for DX-ing instead of mowing the lawn or fixing the faucet.)

Or if you have a perennial complainer next door, get your neighbour involved instead of ragging at you for your antenna farm. Gift the griper with a radio (or sell it reasonably after you've loaned it to them, and they're hooked), and Elmer them right into being your Field Day partner? Or if they decide they don't like it after a good exposure, at the least you will have tried, and they might moderate the complaints now that there is some basis for understanding. Or maybe not, but at least you tried.

Just a few thoughts about a seemingly huge amount of perfectly good gear slowly going to wrack and ruin for lack of use.

Oh, and I just got the word that the 4-H Ham Club here is now a definite "GO." The state investigations somehow missed the decades I spent as a serial axe murderer, and have approved me to work with kids with the 4-H and county extension office. SLOWLY the wheels turn, but they grind exceeding fine.

Looks like I'll be Elmer to a maybe dozen kids, more or less, starting about next September.

And I'm starting them off on TUBE RADIOS. My 520SE is going to get SUCH a workout.

(It's too late to do more than give them a quick heads-up about it this school year, maybe get a few names together and look for parents to help out. I have to wait to get the ball really rolling until next school year starts in late August/early September. That gives me time over the summer to make the meeting plans and get the rest of the odds and ends together for them to start learning on.)

Do-as-I-say?? Nope. Do as you feel you ought; this isn't a "shame on anyone" kind of note. I am going to avoid any accusation of hypocrisy and point out that I -am- doing as I say, or trying to anyway, at the best rate I can manage. You-all do whatever makes you happiest.

But me, I just think there has to be someone trying to drag the next generation off of their video game consoles and into -soemthing- with a little meat on its bones.

I'm just hoping at least ONE person on this list gets the bug and tries to spread some of their knowledge amongst the savages which are some other peoples' offspring. (Even just one could make a world of difference. You never know who is listening, or what they'll make of it.)

--
Wes Will

SysAdmin
N9KDY

48940. (no subject)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-03 08:54:22 UTC
From: fpath fpath
Topic: 48796 Message: 48940

Rick,

I don't do any work on 520s\820s, but mainly work on the 530s and 830s. This is what I do for every new radio that I buy or that comes across my work bench, it is not a recommendation but something to ponder.

Apart from normal service faults or cosmetic restoration, every radio gets a new set of HV caps, I take measurements on various key areas and inject signals and see where the selectivity and sensitivity is at and make notes for the future. I also replace relays etc as I know from experience that relays will start to create issues, deoxit and dry air is a must for all radios, so even if you chosse not to change anything, get them and have them on hand so you dont have to wait. I buy the majority of my stock from Ken K4EAA, hardware parts\boards from Bob KE5FTF. I use a good quality light oil for the fan. From past experience I also spray the various rear panel din plugs and exercise to make sure they aren't stuck or building up corrosion. I have been known to polish the octal plug pins. It really depends on what your comfortable doing without causing any problems. Mark,Mike, Terry and Joe along with others have outstanding knowledge relating to this series of radio.

Welcome to the work of the Kenwood Hybird.

73s

Dave

VK5PDL

48941. Re: [TS-520_820_530_830] How to turn down output power

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-03 12:53:22 UTC
From: Mike W5RKL
Topic: 48938 Message: 48941

Tony,

There are a couple of battery powered external ALC control circuits in the group's website under "Files" that will reduce power output from the TS-820. Using this circuit you will not be able to connect the 820's external ALC connection to the AL82 ALC connection.

Why are you wanting to reduce power output from your TS-820 when connected to your AL82 amplifier? If you tune the 820's transmitter and make the MIC gain adjustments properly, keeping the peak 820 ALC meter indications within the 820's ALC meter scale and you follow the amplifier's tune up instructions and follow the amplifier's ALC pot adjustment instructions in the amplifier's operator's manual then you shouldn't have any problems using the TS-820 with the AL-82 amplifier. You simply make the connections between the TS-820 and the AL82 as shown on the AL82's manual INTERCONNECTION page.

You will need an 8 pin octal plug to connect the amplifier's RELAY and ALC connection to the TS-820.

The AL-82's RELAY is connected to the TS-820 using shielded cable at the TS-820's REMOTE 8 pin socket on pin 5 and the AL-82's ALC is connected to the TS-820's REMOTE 8 pin socket, also using shielded cable, to pin 6. Ground on the TS-820's REMOTE socket is to either pin 1 or 4. The AL82's relay voltage is 12VDC at 100ma and the TS-820 amplifier relay terminals can easily handle that voltage. You can use cheap stereo shielded interconnecting cables, those cable you find in DVD or VCR players/recorder. You can also use a short length of RG-174 coax cable. A short piece of RG-8x will do fine to connect the TS-820's output to the AL-82 input.

You may read elsewhere, not on this group, or be told by hams elsewhere or on other ham forums, that power output can be reduce by adjusting the LOAD control on the TS-820. DO NOT follow that ill advice!!! Also DO NOT adjust the TS-820s DRIVE control to reduce power output either!! The TS-820 should be tuned up for maximum power output and the MIC gain control set properly as discussed/shown in the TS-820's operator's manual as well as following all the tune up instruction in the AL-82 manual.

73
Mike W5RKL

48942. Re: How to turn down output power

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-03 13:16:33 UTC
From: wagstw46@...
Topic: 48938 Message: 48942

Go to Phil Salas AD5X website under Articles and see how to build a simple 3dB T-pad attenuator from inexpensive thick film resistors. Can be manually switched or relay switched. Using inline attenuator allows you to retain ALC input from the amp.

Actually the receiver has enough gain that you probably would not have to switch it out in RX mode.

The simple manual switched unit is toward the end of the article built in a small bud box.

http://www.ad5x.com/images/Articles/HiPwr%20Pad%20RevA.pdf
http://www.ad5x.com/images/Articles/HiPwr%20Pad%20RevA.pdf

Terry K9TW

48943. Re: How to turn down output power

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-03 14:25:50 UTC
From: dlbowders@...
Topic: 48938 Message: 48943

Good morning, I agree with Terry. I made the same choice with my 830S. I have a 811 amp and tried several different acceptable circuits, I chose to use Phil, s design for the simplicity. You can calculate any drop you choose but I used 2dB as it attenuates my 830S to 65 watts. That drives my 811 perfectly. Word of caution : Do Not skimp on the resistors. Use the correct wattage for your calculated power. Follow Phil's notes. I think you will enjoy the results. Mike's counsel is also good advice but I did not want to fuss with my 830. Besides, you can use the attenuator pad on any rig you choose. Have fun with your 820. Best 73 to all. Don K5HFG

48944. Re:

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-03 14:38:19 UTC
From: wagstw46@...
Topic: 48796 Message: 48944

Hi Dave and Rick:

I have resisted responded due to pretty much always being the odd man out!

Depending on the TS520 owners knowledge and experience there are several questions they should ask:
1. Is there any thing I should look for (correct size fuse, swollen or ruptured filter cap vents, cracked RF Plate choke bypass capacitor etc) or measure before I power the radio? Should I just fire it up or should I soft start it (variac or dim bulb method).
2. Is there any preventive maintenance that I should perform (Ricks question) ? Or spare parts I should buy?
3. How do I know if my receiver and transmitter are performing to design spec? Are there any simple operational tests I can perform to assess the receiver and transmitter performance?

I agree with you regards replacing the HV filter caps even if they ESR and Bridge out OK. Eventually they will fail and they often cause collateral damage. Re-oiling the fan bushing holder felts is good practice as well. I also clean the Aux and Ant TR relay contacts on the older series units and generally replace at least the Aux relay on the TS530/TS830 (now using Kens new design) as cleaning the contacts is not easy or long lived. I also clean all the air variable capacitor rotor shaft wiper contacts, and I lube the VFO gear train with Tri-flow. I also De-0xit the bandswitch contacts and all accessible pots and switches. Of course a good visual inspection and blowing out all the dust including the PA cage. That is about it.

I dont know anything about Ricks knowledge and experience so my comments are more directed toward a newly licensed ham who has purchased a TS520 as perhaps a first HF rig. If you have never owned one you really have absolutely no point of reference as to what constitutes "good" receiver or "good" transmitter performance.

Yes there is something to be said for the If Not Broke Dont Fix It Approach, but "broke" is defined differently by different people. Anytime you go into any of these old treasures to perform preventive maintenance you do so at some risk. Been many a molex connector pulled off a board. Been many a ferrite slug cracked. Easy to break something or induce a latent fault that will come back to bite you later.

With that caveat in mind I offer this specifically to a TS-520 and with direct correlation to all the hybrids:

How do I know if my TS-520 receiver and transmitter is performing at or near factory design specs?

1. All of the owner operator instruction manuals have the receiver and transmitter specs listed near front of the manual. Problem with that few hams have the test gear, knowledge, or experience to measure the listed parameters.

2. Assessing the Transmitter performance is a little easier. Can you load to approx 100 watts out while not exceeding 200ma plate current with exception of 10 meters where 80 to 85 watts is normal? You can obtain on air signal reports of signal strength, audio quality, and audio punch. If you get the right person can also get some idea of how wide you are. Better yet lots of folks today have panadapters and can look at signal bandwidth for you. Also, it is very easy to test the Driver stage by turning off the SG and peaking ALC indication in CW mode. Should be able to obtain full scale deflection with CAR level advanced no more than 1000 to 1100 with exception of 10 meters which will take more CAR level and wont attain full scale deflection and NO it is not normal to have no ALC indication on 10 meters that forces you to use work arounds to load on that band.

3. Best method for assessing the TS-520 receiver sensitivity is to use a calibrated RF signal generator to inject known levels into the SO-239. Lacking that test gear then sensitivity testing can be done simply by employing A-B testing if you have a commercial ham rig like a Kenwood or Yaesu or Icom etc that is unmolested. Simply go to each band and select a weak signal to copy and switch antenna back and forth between the two rigs and compare copy. If you have no other receiver you can use your Marker signal (25khz xtal calibrator) and S-meter for a rough test. Go to the Maintenance Section 6 of your manual and set your VFO per the Band and Frequency chart and tune to the Marker and peak it with the VFO and Drive control. You should see approx S8 to S9 on all bands with the Drive control peaked at approx 1200 position. Again S-meter indication will be lower on 10 meters perhaps S5 to S6 level. This of course depends on if previous owner has not "calibrated" the S-meter. If they do they usually make it more generous.

Now what if your receiver sensitivity or transmitter ALC indications and rf output does not meet the above results or is grossly off? Well that is why KW provided Sect 6 in the instruction manual. It allows you to perform a pretty good alignment without the aid of test equipment. However, KW never intended for owners to be performing alignments on some routine schedule.

Typically it wont be too long before a new owner wants to perform a coil pack alignment regardless of how well he feels the rig is performing. I dont recommend alignment as a routine and certainly no substitution for systematic troubleshooting. Alignment comes with risk. Risk of damage and risk of wearing out the adjustment trimmers, coils etc. Almost every KW Hybrid you buy today will have gone thru many hands and many folks under the hood with golden tweakers so it is natural to want to re-baseline your rig at some point. A well done Sect 6 alignment can put the TS-520 receiver and transmitter in very good state of trim.

If you perform the simple operational tests noted above and find performance to be down and decide to perform a coil pack alignment and IFT/RF coil alignment on your TS-520 you must do the following:

1. Under good lite and magnification inspect all of the ferrite slugs on all the coils on each RF hanging board. It is very common for these cores to be cracked. If you insert hex alignment tool in them and turn the tool you will spread the crack and only cause core to resist turning. Cracked cores have to to be removed and not an easy task. Often best to just leave as is unless it is a Het Osc coil which is grossly misadjusted and oscillator wont start reliably.

2. Use a proper plastic hex tuning tool. Ken K4EAA sells proper one on his website.

3. You can apply a drop of lubricant like WD-40 at top of the core with pointed end of toothpick in attempt to free the core. Typically not very successful.

4. Can apply heat from the tip of small soldering iron to the core. Must be done very carefully.

5. If the coil former is found to be cocked or torn off the plastic mounts leave it alone or be prepared to pull the hanging board and replace it.

So yes it is often best to just leave your TS-520 alone if it is working "good enough". Problem is if you have a new to you TS-520 and have no experience with it or any HF transceiver it is hard to define "good enough". My post is an attempt to define "good enough" receiver and transmitter performance. You should have noticed I confined my remarks to receiver sensitivity and not selectivity. That is a subject for another time!

Terry K9TW

48945. OK, the rig works, now for the antenna

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-03 23:23:51 UTC
From: carvintom@...
Topic: 48945 Message: 48945

Now that my "new" TS520 seems to be working pretty well I'm lookin' for some ideas on antenna erection.

I am trying to get a line up over a tree branch so that I can pull up one end of a long wire antenna in my back yard. I have made the conscious decision to keep all of my 67 year old body parts right here on terra firma, so using a ladder is out of the question. Besides, I don't have one long enough and even if I did I'm really not interested in wrestling it out of the garage, up into position and then back into the garage…where would the challenge in that be?

Plan A (executed this afternoon) - This involved using a slingshot to lob a large, heavy nut tied to the end of a string up and over the branch so that I could begin the process. Despite the ill-conceived nature of the plan, large portions of this plan actually worked quite splendidly. Apparently, my many years as a mischievous teenager were not at all in vain, after all. It took a couple of tries, but I was easily able to successfully place the nut (with the string attached) over the several of the suitable limbs…there were about 4 possibilities.

Unfortunately, the nut wasn't heavy quite enough to overcome the friction of the string on the branch so despite my enthusiastic tugging and jiggling, I couldn't persuade it to drop down the opposite side to complete phase 1 of Plan A. You "may" actually have heard my "mutterings" even from wherever where you might have been at the time.

So, on to Plan B - My latest thought is to beg, borrow, steal or fabricate…notice, I said nothing about purchasing…a "stick", for lack of a better term, with which to gently lift the nut over the desired branch and then reach up, grab the little sucker from the other side and yank it down. The problem, of course, is the the length of said stick will need to be at least 25' and preferably 30' long. It won't have to have to lift much weight, but I recognize that keeping something like that stiff enough to use without making it heavy or expensive to build may be problematic. I will probably be able to rest it against the tree on the way up, so even a somewhat floppy stick may suffice. Hmmmm….as I write this, I realize that by using the stick I "may" be able to use a somewhat heavier weight so the requirement for the stick to yank as well as lift, may be subject to elimination.

So, Gentlemen, there are my requirements. Can anybody think of a good way build the "stick" or come up with a Plan C to place a line in a tree for lifting the antenna end that doesn't involve placing my physical countenance in jeopardy?

Tom

48946. Re: [TS-520_820_530_830] Re:

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-04 01:58:37 UTC
From: John Davidson
Topic: 48796 Message: 48946

I use WWV to check relative receiver performance, depending on time of day you should be able to hear WWV on two or more of its several (2.5, 5, 10, 15 & 20 MHz) frequencies. use a coax switch to flip your antennas between the under-test radio and a good "modern radio" (transciever with an all frequency tuning capability). Compare S-Meter readings.

On Tuesday, June 3, 2014 10:38 AM, "wagstw46@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

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Terry K9TW

48947. Re: [TS-520_820_530_830] Re:

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-04 01:59:14 UTC
From: John Davidson
Topic: 48796 Message: 48947

Signature, John, K8JD

On , John Davidson <k8jd@...> wrote:

I use WWV to check relative receiver performance, depending on time of day you should be able to hear WWV on two or more of its several (2.5, 5, 10, 15 & 20 MHz) frequencies. use a coax switch to flip your antennas between the under-test radio and a good "modern radio" (transciever with an all frequency tuning capability). Compare S-Meter readings.

On Tuesday, June 3, 2014 10:38 AM, "wagstw46@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Hi Dave and Rick:

I have resisted responded due to pretty much always being the odd man out!

Depending on the TS520 owners knowledge and experience there are several questions they should ask:
1. Is there any thing I should look for (correct size fuse, swollen or ruptured filter cap vents, cracked RF Plate choke bypass capacitor etc) or measure before I power the radio? Should I just fire it up or should I soft start it (variac or dim bulb method).
2. Is there any preventive maintenance that I should perform (Ricks question) ? Or spare parts I should buy?
3. How do I know if my receiver and transmitter are performing to design spec? Are there any simple operational tests I can perform to assess the receiver and transmitter performance?

I agree with you regards replacing the HV filter caps even if they ESR and Bridge out OK. Eventually they will fail and they often cause collateral damage. Re-oiling the fan bushing holder felts is good practice as well. I also clean the Aux and Ant TR relay contacts on the older series units and generally replace at least the Aux relay on the TS530/TS830 (now using Kens new design) as cleaning the contacts is not easy or long lived. I also clean all the air variable capacitor rotor shaft wiper contacts, and I lube the VFO gear train with Tri-flow. I also De-0xit the bandswitch contacts and all accessible pots and switches. Of course a good visual inspection and blowing out all the dust including the PA cage. That is about it.

I dont know anything about Ricks knowledge and experience so my comments are more directed toward a newly licensed ham who has purchased a TS520 as perhaps a first HF rig. If you have never owned one you really have absolutely no point of reference as to what constitutes "good" receiver or "good" transmitter performance.

Yes there is something to be said for the If Not Broke Dont Fix It Approach, but "broke" is defined differently by different people. Anytime you go into any of these old treasures to perform preventive maintenance you do so at some risk. Been many a molex connector pulled off a board. Been many a ferrite slug cracked. Easy to break something or induce a latent fault that will come back to bite you later.

With that caveat in mind I offer this specifically to a TS-520 and with direct correlation to all the hybrids:

How do I know if my TS-520 receiver and transmitter is performing at or near factory design specs?

1. All of the owner operator instruction manuals have the receiver and transmitter specs listed near front of the manual. Problem with that few hams have the test gear, knowledge, or experience to measure the listed parameters.

2. Assessing the Transmitter performance is a little easier. Can you load to approx 100 watts out while not exceeding 200ma plate current with exception of 10 meters where 80 to 85 watts is normal? You can obtain on air signal reports of signal strength, audio quality, and audio punch. If you get the right person can also get some idea of how wide you are. Better yet lots of folks today have panadapters and can look at signal bandwidth for you. Also, it is very easy to test the Driver stage by turning off the SG and peaking ALC indication in CW mode. Should be able to obtain full scale deflection with CAR level advanced no more than 1000 to 1100 with exception of 10 meters which will take more CAR level and wont attain full scale deflection and NO it is not normal to have no ALC indication on 10 meters that forces you to use work arounds to load on that band.

3. Best method for assessing the TS-520 receiver sensitivity is to use a calibrated RF signal generator to inject known levels into the SO-239. Lacking that test gear then sensitivity testing can be done simply by employing A-B testing if you have a commercial ham rig like a Kenwood or Yaesu or Icom etc that is unmolested. Simply go to each band and select a weak signal to copy and switch antenna back and forth between the two rigs and compare copy. If you have no other receiver you can use your Marker signal (25khz xtal calibrator) and S-meter for a rough test. Go to the Maintenance Section 6 of your manual and set your VFO per the Band and Frequency chart and tune to the Marker and peak it with the VFO and Drive control. You should see approx S8 to S9 on all bands with the Drive control peaked at approx 1200 position. Again S-meter indication will be lower on 10 meters perhaps S5 to S6 level. This of course depends on if previous owner has not "calibrated" the S-meter. If they do they usually make it more generous.

Now what if your receiver sensitivity or transmitter ALC indications and rf output does not meet the above results or is grossly off? Well that is why KW provided Sect 6 in the instruction manual. It allows you to perform a pretty good alignment without the aid of test equipment. However, KW never intended for owners to be performing alignments on some routine schedule.

Typically it wont be too long before a new owner wants to perform a coil pack alignment regardless of how well he feels the rig is performing. I dont recommend alignment as a routine and certainly no substitution for systematic troubleshooting. Alignment comes with risk. Risk of damage and risk of wearing out the adjustment trimmers, coils etc. Almost every KW Hybrid you buy today will have gone thru many hands and many folks under the hood with golden tweakers so it is natural to want to re-baseline your rig at some point. A well done Sect 6 alignment can put the TS-520 receiver and transmitter in very good state of trim.

If you perform the simple operational tests noted above and find performance to be down and decide to perform a coil pack alignment and IFT/RF coil alignment on your TS-520 you must do the following:

1. Under good lite and magnification inspect all of the ferrite slugs on all the coils on each RF hanging board. It is very common for these cores to be cracked. If you insert hex alignment tool in them and turn the tool you will spread the crack and only cause core to resist turning. Cracked cores have to to be removed and not an easy task. Often best to just leave as is unless it is a Het Osc coil which is grossly misadjusted and oscillator wont start reliably.

2. Use a proper plastic hex tuning tool. Ken K4EAA sells proper one on his website.

3. You can apply a drop of lubricant like WD-40 at top of the core with pointed end of toothpick in attempt to free the core. Typically not very successful.

4. Can apply heat from the tip of small soldering iron to the core. Must be done very carefully.

5. If the coil former is found to be cocked or torn off the plastic mounts leave it alone or be prepared to pull the hanging board and replace it.

So yes it is often best to just leave your TS-520 alone if it is working "good enough". Problem is if you have a new to you TS-520 and have no experience with it or any HF transceiver it is hard to define "good enough". My post is an attempt to define "good enough" receiver and transmitter performance. You should have noticed I confined my remarks to receiver sensitivity and not selectivity. That is a subject for another time!

Terry K9TW

48948. Re: [TS-520_820_530_830] OK, the rig works, now for the antenna

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-04 00:51:54 UTC
From: David Potter
Topic: 48945 Message: 48948

☐ Hi

As a suggestion have you tried using fishing line instead of string? And maybe a couple of nuts tied to the end?

Worked for me :)

just my 2c

David
vk7yum

this msg edited as it contained already posted material 73 Joe wb7uqu

48949. Re: [TS-520_820_530_830] OK, the rig works, now for the antenna

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-04 05:54:16 UTC
From: Wes Will
Topic: 48945 Message: 48949

On 06/03/2014 07:51 PM, 'David Potter' david.potter@...
[TS-520_820_530_830] wrote:
> Hi
>
> As a suggestion have you tried using fishing line instead of string?
> And maybe a couple of nuts tied to the end?

Look into a "fishing bow." Or the adapter gadget to mount a cheap fishing reel (closed-face "spin-casting" sort, the ever-popular, never-fails "Zebco 202" for choice!) onto your favourite bow if you already shoot.

Use "flu-flu" arrows, with the over-size fletchings, and rubber "blunt" tips to keep the arrows from making dents in the moon. Or someone's head. The arrows are more likely to slide off branches and stuff nd fall all the way to where you can get a hand on them.

- -
Wes Will
N9KDY

48950. Good You Tube Loading Video

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-04 14:38:57 UTC
From: wagstw46@...
Topic: 48950 Message: 48950

Member is looking for a good video on how to Load. If someone has a model then share it with us. He referred me to a You Tube video and asked if it was a good one to follow. Unfortunately the answer is no and I have yet to see one that I would strongly recommend.

What was wrong with it?

1. Almost all makers of these videos are confused about what is going on when peaking ALC indication in TUNE mode. None of the meter scales mean anything at this step. You are adjusting the DRIVE CONTROL for a peak in the maximum RF voltage swing and nothing more (both in receive and transmit). Videos go on at length how important it is to keep the ALC indication within the Black Printed Scale and go back and forth multiple times to check to make sure it stays there. Worst part is if the ALC indication goes outside the black printed scale they use the Drive Control to reduce it and put it back into the range! Sometimes they have to turn the Drive Control almost maximum CCW or maximum CW direction to place the meter indicator back inside the box. When they do that they severely de-tune the Ant and Mixer tuned circuits (used in rx mode) and the Mixer and Drive tuned circuits (used in Tx mode) and the receiver sensitivity most notably suffers significantly. The proper way to reduce the level is with the CAR Level pot.

The DRIVE CONTROL is NOT a LEVEL CONTROL!

You are not trying to establish some level of 6146 control grid current. Depending on the rig and the dc operating bias voltage the maximum grid current ranges from approx 35ua to 45ua. 35ua occurs at approx mid-scale of the Black scale and 45ua occurs with meter pegged full scale. That is micro-amperes and not milli-amperes. You are not loading a Class C grid leak bias CW transmitter of olden days!

Where in the manual does it tell you to peak the ALC indication in Tune mode using the Drive control as a level control? It simply says to peak for maximum ALC indication and if it exceeds full scale reduce the Car Level pot and re-peak the Drive control. The question in nearly everyones mind is what full scale? The Black printed range or the entire meter movement range? It doesnt matter. What matters is maximum RF voltage swing and not how many micro-amperes of grid current.

If it makes you feel better then go ahead and peak the ALC indication within the Black Printed Range or Scale and if that peak causes the indication to go outside the far right end of the black printed range then simply reduce it by turning the CAR Level pot ccw. Do not reduce it by de-tuning the Drive control.

2. Common to see the Op when time to dip the plate current (tune the tank to resonance) to flip to Send and then go out to lunch! Yikes!

They move the camera around, they adjust the focus, they adjust the lighting, they ramble on and talk about the step. All the while the 6146 finals are sitting there drawing plate current in a state of off resonance. I am usually screaming at the screen at this point! Truth is pretty hard to have a 6146 tube failure doing this step, but why needlessly stress the final tubes. Do this step relatively quickly. No more than 10 seconds or so should be

required to accomplish the plate current dip.

3. After getting that initial plate current dip in Tune mode some Ops will go to CW Mode and flip to Send and then very slowly advance the Plate Load control until they arrive at 200ma indication and then proudly announce that we are now fully loaded and flip back to stand-by! Sadly they arent kidding!

They never reach over and re-adjust the Plate tune control. So the rig is left again in a state of off resonance. The manual tells you after that initial plate current dip in Tune mode to load the radio in CW mode using the RF relative power position. You alternately adjust the Plate Load and Plate Tune controls for a maximum RF relative power meter indication. There is a reason KW provided the RF meter circuitry and meter position. They understood how to load a Class AB1 linear. The RF meter position is not for some last fine tuning step as some use it for. Use it as it was intended if you dont have an external inline wattmeter.

The Plate Load Control is not a LEVEL Control.

When you open its plates you reduce the capacitance shunted across the dummy load which means you increase the capacitive reactance which means you are shunting more of the tank coil RF circ current thru the external load and less thru the Plate load capacitor. You cannot move it without affecting the Tanks state of resonance. Anytime you adjust it you must adjust the Plate Tune capacitor to restore resonant state. This is especially true as you just come off full meshed state. If you like to use the two capacitors for Dip and Load method have a ball, but not the best way to load a Class AB1 linear amplifier. Maximum rf output power is far more discernable than minimum plate current especially as you load heavier.

4. Last thing I observed in this video is related to operating in SSB mode. The Op then sets the Mic gain pot to No. 8 or 3/4 wide open position and stated that he gets the best audio reports at this position using a MC-50 mic! Never once does he discuss now is the time to use the Black printed ALC range and how to adjust the Mic gain for proper ALC indication on voice peaks. I have never used a mic that required No. 8 mic gain setting. Me thinks those who are giving him good audio reports must not have ever experienced adjacent channel splatter!

I might add I looked this chap up on QRZ and he is an Extra Class holder. I am sure a nice enough fellow and well intentioned.

So unfortunately I have yet to see a decent loading video that I would recommend all new folks use as a model. Most in addition to being wrong on some steps and not best practice make it a needlessly complex and convoluted procedure. Surely there must be someone out there who understands how a Class AB1 grid driven tetrode works and how to load it that has the time and the equipment to make a decent quality video (both production quality and content)? I have neither the time or the video equipment. I am still using 8mm Kodak with no sound! The grand kids still get sunburned off the lite bar!

One last time do not use the Drive Control or the Plate Load Control as Level Controls. They are not.

Terry K9TW

48951. Re: [TS-520_820_530_830] Good You Tube Loading Video

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-04 15:03:41 UTC
From: Jan Servaites
Topic: 48950 Message: 48951

Terry,
That is one of the best tutorials that you have written yet.
Thank you for posting it.
I have the video equipment, but not the time right now, since it's summer.
Maybe in a few months.
Jan N8CBX

wagstw46@... [TS-520_820_530_830] wrote:

>
>
> Member is looking for a good video on how to Load. If someone has a
> model then share it with us. He referred me to a You Tube video and
> asked if it was a good one to follow. Unfortunately the answer is no
> and I have yet to see one that I would strongly recommend.
>
>
>
> .
>
>

48952. Re: [TS-520_820_530_830] Good You Tube Loading Video

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-04 15:50:37 UTC
From: wagstw46@...
Topic: 48950 Message: 48952

Hi Jan:

I have gotten quite a few requests for videos on how to load and other things like how to neutralize etc.

Part of reason I have resisted is not only due to how busy I am trying to answer off list emails and get customer rigs off the bench, but I have not taken the time to evaluate what is needed to make a decent video production. What kind of camera, what kind of lighting, tripod, lapel mic, editing software etc. I am sure it is the gambit from $100 to $10,000 and an acceptable job can be done toward the lower end of the scale.

I have some training background from nuclear power training academy and understand video as a training tool, but dont want poor quality video production to detract from the message. We have all seen the dark scenes, glare off the white board, figures too small to read, poor focus, barking dogs and crying babies!

Also hard for me just to show how to load without throwing in some discussion of what is on the end of those knobs and a little how and why and what happens when you dont get the expected results. Maybe need to make a two part one? Right now just how to load would be a big help.

If you get time to make one I would be glad to preview it for you.

Have a great day.

Terry K9TW

48953. Re: [TS-520_820_530_830] OK, the rig works, now for the antenna

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-04 11:11:41 UTC
From: Sal Cerda
Topic: 48945 Message: 48953

A 1 oz. fishing sinker will work much better than a steel nut. The tapered shape tends not to get caught in the branches. The suggestion to use fishing line is quite apropos. It us much slicker and the 1 ounce weight will slide down to the ground.
What worked for me was to use a cheap slingshot that I bought at a local hardware store. It had no trouble getting the weight up over a 70 foot oak.
Sal
KD0UBE

48954. Re: [TS-520_820_530_830] Good You Tube Loading Video

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-04 17:07:56 UTC
From: Jan Servaites
Topic: 48950 Message: 48954

Terry & the Yahoo group,
I have been involved making video reports for about 25 years at my old research job for the USAF, and I found the best ones had the best scripts. Even if we don't have a final script yet, I think your previous email will make a very good outline for it.
Yeah, most of the homemade video shots look like they used a cell phone camera and held it very unstready.
Jan N8CBX

48955. Re: [TS-520_820_530_830] Good You Tube Loading Video

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-04 18:02:46 UTC
From: wagstw46@...
Topic: 48950 Message: 48955

Jan:

I agree scripted and practiced is the best. If not a script certainly pretty good outline. If you get time look at loading instructions and why recommend a wattmeter on my website www.k9tw.com http://www.k9tw.com.

I am planning on re-writing and tweaking a little. Maybe a separate long and condensed versions. Just not enough hours and as you say those of us who live in midwest need to take advantage of what short summers we have.

Would be outside today but has rained all day. Fortunately no bad storms here yet.

Terry K9TW

48956. FS: Kenwood TS530sp, ATU230 & MC50

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-04 21:36:45 UTC
From: ars.kf5gc@...
Topic: 48956 Message: 48956

cI am re-posting this as I had inadvertently left off my signature.

I have for sale the above referenced kenwood gear. They all function well. No cw filter just the standard ssb filter. The ts530sp & at230 are a 9 out of 10 and the mc50 is an 8/10. I want $475 for the whole set. Shipping will not be cheap so I am willing to meet within a 100 mile radius of Lindale, Texas, 75771. Email me direct off list or call 903-283-8794.

Thank You
Barry Sherwood
N5HW
Ex-KF5GC
Ex-N5GZX

48957. Re: [TS-520_820_530_830] Good You Tube Loading Video

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-05 15:31:01 UTC
From: w2aew@...
Topic: 48950 Message: 48957

I shoot a video today and upload it to my YouTube channel. I'll also post a note to the group when it is ready.

73,
Alan W2AEW

w2aew http://www.youtube.com/w2aew

http://www.youtube.com/w2aew

w2aew http://www.youtube.com/w2aew Mostly videos on hobby electronics, test & measurement, ham radio, and other stuff. The site is mainly geared towards the hobbyist. Be sure to let me know if...

View on www.youtube.com http://www.youtube.com/w2aew
Preview by Yahoo

48958. Re: Good You Tube Loading Video

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-05 16:25:20 UTC
From: w2aew@...
Topic: 48950 Message: 48958

I've uploaded a video of the proper tune-up procedure. I haven't made the link public on my channel, but you can view it by following this link. Please have a look and let me know if it looks good. If you like it, I'll make the link public on my channel.

Kenwood TS-830S Tune Up Procedure http://www.youtube.com/watch?v=bTVpQ18dn1o

73,
Alan W2AEW
http://www.youtube.com/w2aew

48959. Re: Good You Tube Loading Video

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-05 18:00:57 UTC
From: wagstw46@...
Topic: 48950 Message: 48959

Alan:

Best one I have ever seen.

There is no reason to reduce ALC indication in TUNE mode to be within the black printed range, but probably best to teach it that way to give them a target range rather than have to convince people it doesnt matter and explain that we dont care about difference between 35ua vs 45ua of grid current. All we want is maximum RF voltage swing at the control grids of the finals. When we have that the ALC bus voltage is at its lowest point and that is what the meter is actually reading.

Also only other thing I would add as a last step is to place meter in Ip position and flip to Send again and check the plate current. For a TS830 should not exceed 265ma although the informal level that most of us use is 225ma. For the TS520/TS820 series should not exceed approx 200ma. The series have different dc input power ratings.

Might then tell or demo what to do if Ip exceeds max (close plates of Load cap and re-adjust tank cap).

Lastly might mention no need for heater warm up, but no reason either not to give them a few seconds rather than place the accelerator to the floor! Also, no reason to check zero signal plate current and set to 60ma each time, but Ok to check as a first step if you want to.

Otherwise it is very well down as all of yours are. I especially enjoy your tutorials and frequently recommend them.

73s
Terry K9TW

48960. Re: Good You Tube Loading Video

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-05 19:01:48 UTC
From: w2aew@...
Topic: 48950 Message: 48960

Thanks Terry - rather than re-shoot the video, I added the note about checking IP as an annotation in the video during the final peaking step.

Alan

48961. Re: Good You Tube Loading Video

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-05 20:26:14 UTC
From: wagstw46@...
Topic: 48950 Message: 48961

Great.

When new people ask me if there is a good KW hybrid loading video (and they do quite often) I can now refer them to your site.

I also encourage them when they get xtra money to invest in a wattmeter and to use it to load rather than the RF relative power position as it puts a real number to the maximum (approx 100 watts) and it lets them know if there is a problem with their rig and/or their antenna system as the RF meter position will still indicate if you have RF drive or emission issues or are loading into an open and fool you into thinking all is well if you dont have a lot of experience. With inline wattmeter can leave panel meter in IP at that last step.

As I mentioned no operational or technical basis for peaking the ALC in Tune mode in middle of the Black printed scale, but I guess there is a good Human Factor reason. Easy for new people to remember that when loading you peak ALC indication there and when modulating in SSB you talk it up to there.They dont have to understand the what and why. Hopefully if enough interest that will come with time.

I just hate to see people go back after loading to 200ma and try to adjust the ALC indication again as so many videos teach and depending on the model (most notably the TS520) there may be no ALC indication at 200ma.

Thanks for taking time to do this.

73s
Terry K9TW

48962. RE: [TS-520_820_530_830] Re: Good You Tube Loading Video

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-05 17:08:24 UTC
From: Tom Bryan
Topic: 48950 Message: 48962

Thanks Alan. That is a very clear and concise video of the tuning procedure.

Tom

KC9JZF

From: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com]
Sent: Thursday, June 05, 2014 11:25 AM
To: TS-520_820_530_830@yahoogroups.com
Subject: [TS-520_820_530_830] Re: Good You Tube Loading Video

I've uploaded a video of the proper tune-up procedure. I haven't made the link public on my channel, but you can view it by following this link. Please have a look and let me know if it looks good. If you like it, I'll make the link public on my channel.

Kenwood TS-830S Tune Up Procedure <http://www.youtube.com/watch?v=bTVpQ18dn1o>

73,

Alan W2AEW

http://www.youtube.com/w2aew

48963. Re: Good You Tube Loading Video

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-05 20:44:31 UTC
From: w2aew@...
Topic: 48950 Message: 48963

Glad to help. If you want, you can post a link to this video on your website where you have got the great how-to guides.

Alan

48964. Re: Good You Tube Loading Video

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-05 20:59:39 UTC
From: wagstw46@...
Topic: 48950 Message: 48964

That is a good idea. I will do that as soon as I figure out how and get the time. I have a lot of KW hybrid info I could populate it with, but very busy with bench work.

My site is a work in progress and I have struggled to get it where it is as I am not very computer literate. Also trying to do it on the cheap with Google Sites which is free but not most user friendly at least from my perspective.
Terry K9TW

48965. Re: [TS-520_820_530_830] Re: TS-520 Pre-emptive Maintenance?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-05 21:32:25 UTC
From: John Davidson
Topic: 48922 Message: 48965

My rig history (partial) Boatanchor to rice box.
I went from desk filling, made in USA, boat-anchors with huge knobs and slide rule frequency dials... to the (to me) little TS520 that did a big job from a small box a fraction of the size of my Hallicrafters / E.F. Johnson combo !
Next came my Kenwood TS440s with small, dual fucntion, concentric knobs and tiny flush buttons, difficult for my fat fingers to hit and twist properly but I mastered it ! Not I am back to a huge sized radio compared to the TS440s..A Yaesu FT990 that has easy to grip knobs to twist and larger buttons to toggle some funcitons.
It doesn't quite have the sliderule dial like my old SX101a but a large digital freq display that I don't need my reading glasses to see.
Life is good !
73, John...K8JD

On Monday, June 2, 2014 6:39 PM, "wq8q@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

John, I found a CW filter for the 520 and it will be here this week . . . so between that and the SCAF filter I should pretty much have things in hand.
I love my K2/100 (loaded) that I built, and I'll probably never sell it because I built it, but the little knobs and buttons aren't that much fun and I really don't like the sound of DSP processing that much. Sort of an old school guy I guess.
One thing you may find amusing, in the original TS-520 QST Review (Sep '74) the author says: "Placement of the various controls proved both convenient and comfortable for operation. While some are very closely spaced on the front panel, no difficulty was experienced in using the system."
I wonder what he would say about today's rigs.
73 de Rick WQ8Q

48966. Newbie

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-06 11:11:17 UTC
From: beeson.neil@...
Topic: 14775 Message: 48966

G'day fellow members. I'm new to this group. I have a TS 520 SE that has never been plugged in until now. Last Saturday we put it on a Variac and over 12 hours brought it up to 240 volts. On Sunday a friend that knows more about these radios came over and tuned it up for me and we put it on air for the FIRST time in its life. It's in pristine condition and has that new radio smell to it. I got it from a silent key estate and it will be my baby for a long time to come.
73 Neil Beeson VK6NSB

48967. Re: [TS-520_820_530_830] Newbie

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-06 15:10:46 UTC
From: Joseph Stiles
Topic: 14775 Message: 48967

Neil, welcome aboard! You will find lots of knowledge and helpful persons here in the group.

A group member, Alan-w2aew, has just done a video for persons that are unfamiliar with proper tuning and operation of the Kenwood hybrid series. The video is short and to the point. Go take a look at:

http://www.youtube.com/w2aew

73 Joe
WB7UQU
Group Co-owner

On Friday, June 6, 2014 8:01 AM, "beeson.neil@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>G'day fellow members. I'm new to this group. I have a TS 520 SE that has never been plugged in until now. Last Saturday we put it on a Variac and over 12 hours brought it up to 240 volts. On Sunday a friend that knows more about these radios came over and tuned it up for me and we put it on air for the FIRST time in its life. It's in pristine condition and has that new radio smell to it. I got it from a silent key estate and it will be my baby for a long time to come.
>73 Neil Beeson VK6NSB
>
>
>

48968. Re: [TS-520_820_530_830] Newbie

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-07 04:42:57 UTC
From: beeson.neil@...
Topic: 14775 Message: 48968

Thanks Joe. I've already studied that video and found it VERY helpful. I'm looking forward to people helping me to keep this great radio alive. When I set it up photos will be taken and posted. It's going to sit next to my Kenwood TS-680S Neil
VK6NSB

48969. Kenwood Net?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-07 19:54:49 UTC
From: brett_forehand@...
Topic: 48969 Message: 48969

Hi folks, trying to find the Kenwood Hybrid Net today on 40 meters... I'm not hearing anyone on 7.235. Where is the net control located?

73,
Brett KF5WXP/AG

48970. Re: [TS-520_820_530_830] Kenwood Net?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-07 22:53:12 UTC
From: Jan Servaites
Topic: 48969 Message: 48970

Thats the correct freq., and starting at 3:30pm. I was away from the shack today
Jan N8CBX

brett_forehand@... [TS-520_820_530_830] wrote:

>
>
> Hi folks, trying to find the Kenwood Hybrid Net today on 40 meters...
> I'm not hearing anyone on 7.235. Where is the net control located?
>
>
> 73,
>
> Brett KF5WXP/AG
>
>

48971. What To Look For?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-08 01:33:02 UTC
From: wagstw46@...
Topic: 48971 Message: 48971

I was asked what are some of the things I look for when a rig hits my bench and if these things can be done by an inexperienced new owner who may want to make a decision to return a recently purchased KW hybrid or to perform these inspections prior to purchase.

Well it is not very easy to perform anything other than an external visual inspection at hamfests. Looking at pictures on Ebay is not very useful other than it makes me very nervous when I see a photo of a KW hybrid with Heaters on, CAR Level pot advanced, in CW mode, and rig flipped to Send and the seller stating it is refurbed and one of the best he has ever seen! This is not a radio I will be bidding on and paying Ebay auction fever price for.

Ideally it is always best if you can see the radio first hand before purchase. This is possible if you buy at a hamfest or make a local purchase. A local purchase from an owner who can demonstrate the radio is always preferable, but typically the least likely source. You would like to think that if it is in very good cosmetic condition that the insides will not be a disaster and that it will be in good operational trim as well. Of course there are no guarantees.

I think the most important thing you can do for yourself purchasing from any source is to understand your "right of return" and to get it in writing.

I just placed a Visual Inspection Guide under the How To section on my website www.k9tw.com. It details the kinds of things I look for on the rigs that come across my bench. It does not list any preliminary measurements that I would typically make.This is just a list of things to look for that will need addressing as part of normal service and in some cases problems that I pretty routinely encounter. I always record the as-found visual and operational conditions and put that in my final report to the owner.

This check list would not be something that you could very easily use in the field at a hamfest or at a sellers shack. However, should you get the opportunity to look under the hood it would be of use to you or it may be of some use to you when deciding if you are going to keep the radio or return it or perhaps negotiate a better price.

Terry K9TW.

48972. Re: Kenwood Net?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-08 02:45:54 UTC
From: Mark Gilger
Topic: 48969 Message: 48972

Today the net was run by Jimmy, WB2KNR out in N.J. Next week I'll be running it from Ohio. Time is 3:30 PM Eastern.

Sunday's net is at 1800z on 14.316.

Mark, WB0IQK

48973. KENWOOD NET UPDATE (June 8, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-08 20:39:13 UTC
From: Mark Gilger
Topic: 48973 Message: 48973

```
Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHo
mePage.htm
```

The net recently celebrated it□s 2nd year in existence on November 1st, 2013. The yearly check-in totals are posted at the bottom of this message. It showed we had a 10% increase in our Saturday check-ins and an 8% on Sunday as compared to the 2012 check-ins.

The Saturday□s net was run by, Jimmy, WB2KNR. There were 9 stations checking in under good band conditions. We had the following number of radios checking in.

```
3 running TS-520(x)
3 running TS-530(x)
2 running TS-820(x)
1 running TS-830S

The reset were running non hybrid equipment.

Jimmy was running his TS-520.

The Sunday net was run by me, WB0IQK. There were
11 stations checking in under poor band
conditions. We had the following number of radios checking in.

4 unning TS-520(x)
0 running TS-530(x)
1 running TS-820(x)
3 running TS-830S
0 running TS-510

The reset were running non Kenwood hybrid equipment.

I was running my TS-820s twins (TS-820S + R820).
```

We have been having several people checking in regularly with their TS-430, TS-440, and TS-940□s, which of course is not a hybrid, although over 30+ years old. Everyone is welcome as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a net control station, please send me an email. Currently it's just myself, WB2KNR and WB0SGA. I would like to get several more. If we do, we can alternate so everyone might be on a 3-4 week rotation. It's a lot of fun and a good way to make sure you station is optimized.

For anyone that has not heard, we have a new web site that WB4HFN is hosting. He currently has a very nice site for Drake, Collins and Heathkit and now Kenwood Hybrids. Good quality manuals plus sale flyers and brochures will be found here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 ☐ Oct. 2012 Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins

November 2013, Saturday☐s net total = 94, Sunday☐s total = 85
December 2013, Saturday☐s net total = 87, Sunday☐s total = 103
January 2014, Saturday☐s net total = 71, Sunday☐s total = 82
February 2014, Saturday☐s net total = 80, Sunday☐s total = 85
March 2014, Saturday☐s net total = 82, Sunday☐s total = 73
April 2014, Saturday☐s net total = 64, Sunday☐s total =43
May 2014, Saturday☐s net total = 66, Sunday☐s total = 35
June 2014, Saturday☐s net total = 9, Sunday☐s total = 18 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

48974. Re: [TS-520_820_530_830] Kenwood Net?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-07 23:30:49 UTC
From: Mark Allendorf
Topic: 48969 Message: 48974

Yes, it is at 3:30 Eastern time on Saturday. Sorry, I don't know why I typed 1:30. I believe the net on Sunday is at 1:00 Eastern on frequency 14.316. I'm going to try to make that one.

73,
Mark
KM4AHP
On Jun 7, 2014 6:52 PM, "Jan Servaites jservaites@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
> Thats the correct freq., and starting at 3:30pm. I was away from the
> shack today
> Jan N8CBX
>
> brett_forehand@... [TS-520_820_530_830] wrote:
>
>
>
> Hi folks, trying to find the Kenwood Hybrid Net today on 40 meters... I'm
> not hearing anyone on 7.235. Where is the net control located?
>
>
> 73,
>
> Brett KF5WXP/AG
>
>
>

48975. Re: What To Look For?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-08 18:25:16 UTC
From: rhumstruck@...
Topic: 48971 Message: 48975

Thanks Terry,
I downloaded this and am very happy. I quickly learned a couple of things I had not thought of. This is a real keeper!
Jeff KD9AGN

48976. Re: Kenwood Net?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-08 19:07:32 UTC
From: Brett Forehand
Topic: 48969 Message: 48976

Thanks Mark! It was nice talking to you today. I guess conditions weren't right for me yesterday on 40 meters.

73,
Brett KF5WXP/AG

48977. Re: [TS-520_820_530_830] Kenwood Net?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-07 21:57:32 UTC
From: Mark Allendorf
Topic: 48969 Message: 48977

I believe it is at 1:30 Eastern time. I could be wrong though. Haven't been

able to make it to my first one yet.

Mark Allendorf
KM4AHP
On Jun 7, 2014 5:28 PM, "brett_forehand@... [TS-520_820_530_830]" <
TS-520_820_530_830@yahoogroups.com> wrote:

>
>
> Hi folks, trying to find the Kenwood Hybrid Net today on 40 meters... I'm
> not hearing anyone on 7.235. Where is the net control located?
>
>
> 73,
>
> Brett KF5WXP/AG
>
>

48978. Re: What To Look For?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-09 11:40:36 UTC
From: wagstw46@...
Topic: 48971 Message: 48978

OK Jeff:

It is not all inclusive list, but gives you some things that you can check visually.

I would add to check the PC board hold down screws. I sometimes find them loose, missing, and once in awhile even stripped threads. OK to back them off and then retighten them but dont go crazy just snug them up. Hard to teach feel! A neighbor once tightened all the bolts on my lawn tractor I loaned him and he handed quite a few broken ones to me when he returned the mower! I think he mumbled something about inferior grade fasteners!

I sometimes find VFO shield cans with missing screws and even find a flat washer from time to time floating around inside the VFO shield can (TS530/TS-830).

I am not a big fan of star lock washers on the PC boards. Why didnt an EE Japanese design engineer at the factory think of that design flaw?

Also, be very careful plugging and un-plugging and cleaning Molex connectors as a routine task. Easy to pull them off the board or even crack the board. I do wiggle all of them with the rig in operation and often encounter an intermittent condition due to bad solder connection or a cracked PC trace at the pin pad interface.

This is not common, but I do find some wire wrap posts that have been unwrapped and a very crude attempt to re-wrap with the old lead wire. You cannot do that as the wire has been work hardened during initial wrapping and is very brittle. You must cut all the old wrapped conductor off and skin back to fresh wire and usually not enough slack to re-wrap even if you have the correct hand wrapping tool. Best to clean the post to remove any oxidation and then just make one wrap and tack solder. I see this mostly on TS-520 series rigs where one or more of the RF "hanging" boards have been replaced. Can be the reason for poor or intermittent receive and transmit functions on the RF board.

Have fun

Terry K9TW

48979. Re: [TS-520_820_530_830] How to turn down output power

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-11 23:20:24 UTC
From: Ron
Topic: 48938 Message: 48979

I use the carrier to turn it down

Ron KK4PWF

On Jun 2, 2014, at 7:01 PM, "anthonypnsr@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
> Hi my name is Tony KM4ALD I recently picked up a Ameritron AL 82 Linear Amplifier and im not quite sure how to turn down the output power on my TS 820 s any suggestions?
>
>
>
>

48980. RE: [TS-520_820_530_830] How to turn down output power

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-12 00:29:02 UTC
From: Gene Henderson
Topic: 48938 Message: 48980

Sorry OM that will not reduce the power out in SSB that only works in the CW mode

Gene WB9HLA

From: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com]
Sent: Wednesday, June 11, 2014 7:20 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830] How to turn down output power

I use the carrier to turn it down

Ron KK4PWF

On Jun 2, 2014, at 7:01 PM, "anthonypnsr@... [TS-520_820_530_830]"
<TS-520_820_530_830@yahoogroups.com> wrote:

Hi my name is Tony KM4ALD I recently picked up a Ameritron AL 82 Linear Amplifier and im not quite sure how to turn down the output power on my TS 820 s any suggestions?

48981. Re: TS-530S alignment step question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-12 04:28:12 UTC
From: louis.wilen@...
Topic: 48907 Message: 48981

Followng up on my earlier question about alignment step 5 on an TS-530S:

I measured Pin 1 connector 6 (using an RF probe) and found that the voltage is 185 mV. The instructions call for 200 mV +/- 1 dB.

I think that 185 mV is only 0.677 dB from the 200 mV target, so I don't really need to adjust this since the instructions allow for up to 1 dB differential. (Am I correct?) I used the Voltage and Gain calculator on this web page to do the calculation:

Decibels to Voltage Gain and Loss convert calculation conversion amplification amplifier electronics - sengpielaudio Sengpiel Berlin
http://www.sengpielaudio.com/calculator-gainloss.htm

http://www.sengpielaudio.com/calculator-gainloss.htm

Decibels to Voltage Gain and Loss convert calculation co...
http://www.sengpielaudio.com/calculator-gainloss.htm Gain and loss - damping and amplification in dB voltage conversioncalculation amplification amplifier electronics - field parameter - Eberhard Sengpiel sengpie...

View on www.sengpielaudio... http://www.sengpielaudio.com/calculator-gainloss.htm
Preview by Yahoo

But if I do need to adjust TC2 on the VFO board, how would I get to it? The VFO board appears to be completely covered by the Counter Unit.

Thanks in advance for any replies.

Louis
W3LMW

48982. Re: TS-530S alignment step question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-12 04:31:22 UTC
From: louis.wilen@...
Topic: 48907 Message: 48982

Terry,

I just reread your ealier reply and I see that you converted 1 dB to mV in your reply, so I don't need to adjust TC2.

But for future reference, how does someone access the VFO board?

Thanks again,

Louis
W3LMW

48983. Re: TS-530S alignment step question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-12 12:08:53 UTC
From: wagstw46@...
Topic: 48907 Message: 48983

Your level is fine. 178 to 224 mv rms is the range. Lots of ways to make the conversion. For +1dB multiply by 1.122 and for -1dB multiply by 0.89.

To align the VFO both high end and low end tracking, CW mode 800hz offset, and rf output voltage you must remove the 4 allen head screws and pull the VFO forward to access the trimmer and inductor holes in the shield can. No problem running the VFO outside the rig to do this. Be careful when you re-insert it as you can pinch the small gauge pilot lamp lead wires as you tighten the screws if they are not in the clear.

Terry K9TW

48984. Re: TS-530S alignment step question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-12 14:12:57 UTC
From: louis.wilen@...
Topic: 48907 Message: 48984

Terry -- thanks again for the prompt reply and for all of the help that you've provided.

I've completed alignment steps 1 to 7. I haven't proceeded further because because I don't have a sweep generator (yet). I'm real slow because I read and reread the instructions and the theory of operation while I'm doing this because I'm trying to understand what's really happening behind the scenes. (Thanks for your patience.)

A few observations:

-- LSB used to sound (on receive) just slightly bassey and muddy. Now LSB sounds just as clear as USB. Actually, the rig now sounds just like those flashy new rigs!

-- Sensitivity seems to be improved on all bands, although I can't really confirm that because I don't have a sweep generator (yet) and because band conditions are always changing. But I can confidently say that WWV is definitely stronger.

-- The VFO used to slowly drift downward about 100 Hz every 5 minutes for the first 15 minutes of operation, then drift up and down about 100 Hz every so often after the rig was fully warmed up. Now the VFO is almost rock-steady within about 3 minutes after the rig is powered on.

Some of the alignment instructions call for an AF VTVM. Can I use a Fluke 179 as the "AF VTVM"? It is a true RMS DVM.

Louis
W3LMW

48985. Greetings from new ham and TS-520 owner

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-12 12:31:26 UTC
From: kk4yic@...
Topic: 48985 Message: 48985

Hello!

My name is Bret McHone, KK4YIC, and I am the proud owner of a Kenwood TS-520. This radio was definitely a learning experience as I grew up in the age of digital equipment and had never been around vacuum tubes, radios, or anything really other than modern PCs. I can build an intercontinental network infrastructure, but holy crap these old radios make me feel green behind the ears!

With that said my first radio has been a bit of an odyssey. After a local ham checked it over as much as he could I bought the radio from him for $125. On his Bird 43 watt meter it was showing putting out about 110 Watts on 20 meters into a dummy load and the receive was great! After going over a few things with him and testing it out on my antenna it looked like I was in business. I spend a couple days poking around and had a couple short QSOs (my first ones ever, in fact).Well, due to operator error/stupidity I ended up not giving the tubes enough rest during one the tune-up processes and popped my cathode resistors. Having never worked on electronics before I grabbed a soldering station that the ham I bought the radio from had given me and practiced on some old computer power supply boards. After figuring out which resistors were the problem I shakily replaced them, though successfully without damaging any of the other components!

At the time I didn't have a good SWR/Power meter so I grabbed an antenna tuner that had the meter built into it. When set as either direct or tuned on the tuner I kept getting really low readings for my power even though the SWR was still showing fine. When trying to figure out what was wrong I didn't pay enough attention to what I was doing and made the *SAME* damn mistake again. POP goes the resistors...

I ended up spending another week stewing over my own incompetence and trying to determine what I had done wrong and where I was messing up The same ham the sold me the radio extended even more help and actually picked my tubes up and took them to be tested, During that time I replaced the cathode resistors (again) and the screen resistors since they were measuring around 138+ ohms instead of 100 ohms and I had the parts on hand (thanks to K4EAA for having those easily purchased and available).

I borrowed a Drake W-4 watt meter and dummy load to test out the radio after replacing the parts. I then started following the tune-up procedure to the letter provided by K4EAA and I have to say it was night and day. I let the radio warm up for about 5 minutes and began tuning little by little giving at least about 5-10 seconds between the short transmits needed to dip the plate and adjust the load. I was a bit gun shy at this point and didn't want to risk blowing something else up on the radio so I kept on tuning to get my IP up to about 225ma in transmit and VOILA! After taking my time and following the advice of veteran hybrid users I had a radio that was putting out about 115 watts according to the Drake W4! Now, I'm more than happy with 100 watts so I don't plan on pushing the radio, but I was just looking for that 225mA area recommended by K4EAA. I hooked the radio back up to the tuner in direct mode and tuned up again and guess what? LOW POWER READINGS! I put the W4 in line between the radio and the tuner and the drake showed normal power! So it was my @#$% meter on the tuner that isn't calibrated correctly!!! All that fiddling and trouble mostly

because of a faulty readout!

Now that I"m on the air I am one happy camper and I hope to try and get on the net with y'all this weekend if at all possible. I'm a newbie that generally has to learn the hard way, but I love to learn and I *LOVE* that you can actually work on these radios instead of having to send them back to the factory to have a board replaced and shipped back to you.

I will be slowly increasing my collection of tools (and understanding of the tools) in order to work on this thing and keep it running. Heck, learning how to fix it has been just as much fun as talking on the air! My next job on this radio is to attack the marker board because the calibration tone isn't being generated, but that's for another day!

73 to all!
Bret, KK4YIC

48986. RE: [TS-520_820_530_830] How to turn down output power

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-12 13:03:40 UTC
From: kk4yic@...
Topic: 48938 Message: 48986

I know there is a "QRP mod" I've been looking at for the 520 where you apply a small negative voltage to one of the pins of the VFO port. It's supposed to allow you to drop the output power while still loading it up normally so your sound quality doesn't suffer. Perhaps it is something similar for the 830?

Good luck!
Bret, KK4YIC

48987. Ts 820 problems on 80m

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-12 13:38:55 UTC
From: kf5vhy@...
Topic: 48987 Message: 48987

Hey guys. I have one more issue I need to work through. I am not able to tune the radio on 80m meters. 20m 160m 40m 15m all work. I haven't tried 10m. I did replace r5 and r6 on the hv unit from a previous issue. Here is the link to the video showing my issue. http://youtu.be/3gal_WYfnB4 Thanks Duff Morrow KF5VHY

48988. Re: TS-530S alignment step question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-12 15:17:48 UTC
From: wagstw46@...
Topic: 48907 Message: 48988

Louis

I dont recommend alignment on a routine basis or as a substitution for troubleshooting. Once aligned radio should stay in that trim for many years. However, I do perform a 100% complete factory service manual alignment on all KW hybrids that come across my bench as a way to re-base line the radio. I do that as there is no way to know how many owners it has passed thru and how many golden screw drivers have been applied. In addition to improving on performance I can usually find some operational issues during alignment.

So I understand why you might want to align your radio. It also helps you learn how it works and to locate and identify test points, adjustment devices, and acceptance criteria. It also teaches you real quick where the schematic and service manual errors are at and unfortunately they abound. You will get a real lesson on a TS820 when wrong test point, wrong trimmer, and wrong acceptance criteria is called out!

Just remember any time you go in to alignment it is easy to damage things and add needless wear to the adjustment devices. Besides breaking things you can induce latent failures which can manifests themselves at later date with intermittents. So it should not be a spring tune up procedure like rotating finals or lubing the fan bushings.

I dont know the specs of your Fluke DMM. Easy to look them up and see what the AC frequency response is. Most DMMs AC frequency response is lower than that of a VTVM. I have a nice BK 40,000 count true RMS DMM and it is only good to 1000hz. My Heath VTVM is pretty accurate up to 20khz and will measure higher than that.

Also I dont use any DMM to align the KW Hybrids other that to measure and adjust 9vdc regulated and the RF-1 level. I only use Analog meters (VTVM, True RMS AF VTVM, and RF Millivolt meters). Most straight VTVMs can be used on AC range to do what you need. If you dont have a VTVM then of course use your Fluke or whatever DMM you have. Suggest you verify what its input impedance is on all ranges and if you cant find that out just try measuring the AGC bus and see what happens to your receiver and S meter. It will tell you if you should be using that DMM for KW hybrid work.

Lastly you dont need a Sweep Generator to check your receiver sensitivity? Not sure why you think that is instrument needed? I good calibrated RF signal generator with a good step attenuator is all you need to actually measure sensitivity. Absent that you can do AB testing with another unmolested commercial ham band rig.

It is easy to measure MDS and AGC threshold if you have a RF sig gen. For quick check just start by injecting -73dBm or 50uv on each band and note the S meter reading you will have a good idea about how the receiver is hearing. Should see approx S9 with that level into the SO-239. Then step the output down to -113dBm or 0.50uv and you should clearly hear signal on all bands (with no S meter indication) and most hybrids can hear even lower to at least -119dBm or 0.25uv.

Only thing you need a Sweep Gen for with a TS530 is to perform PLL BPF alignments. Fortunately in my experience people seldom mess with these coils. PLL board is seldom

messed with unless CB hacked. You can do a rough check just by injecting VFO signal frequency range into Q39 and then measure the RF voltage level at output of Q35 emitter. Should see peaks per the center frequency response curves in VCO alignment steps. Can do it just using the VFO but not as accurate due to the VFO gear reduction making the peak very broad. Much better to unplug the VFO input at PLL board and inject from 5mz to 6mhz at approx 200mv level from RF sig gen and watch the RF voltage peak at Q35 emitter as you slowly swing the VFO and rock it back and forth to get peak RF voltage indication. Not as good as Sweep Gen method but will tell you if grossly off and needs alignment. Has to be pretty bad for the digital display to blank at either end of the VFO range.

Terry K9TW

48989. Re: Ts 820 problems on 80m

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-12 15:44:13 UTC
From: wagstw46@...
Topic: 48987 Message: 48989

Where is CAR level pot set at?

Turn it full CW and try and dont just turn Drive control a few degrees around 1200. Turn it wide range back and forth around 1200. If ALC pegs during this test just simply turn down the CAR level pot to get meter indicator off the peg.

Terry K9TW

48990. Re: Ts 820 problems on 80m

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-12 15:57:38 UTC
From: Mark Gilger
Topic: 48987 Message: 48990

When you flip the switch to the IP position, I did not see any meter deflection. It should go up to about 50-60ma and yours showed 0. Do you get IP 50-60ma on the other bands, just not on 80?

Mark, WB0IQK

48991. frequency running

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-12 16:23:08 UTC
From: James Pruett
Topic: 48991 Message: 48991

My ts520s, sometime the frequency runs, I've check the 9v supply what would I check next

48992. Re: [TS-520_820_530_830] Re: Ts 820 problems on 80m

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-12 18:57:40 UTC
From: Duff Morrow
Topic: 48987 Message: 48992

Yes Mark all other bands tune up fine. I can't say for sure on 10m because I haven't tried it.

Terry I'll try that this evening when I get home.

Thanks,

Duff Morrow
KF5VHY

>
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48993. Re: [TS-520_820_530_830] Re: Ts 820 problems on 80m

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-12 19:12:58 UTC
From: Mark Gilger
Topic: 48987 Message: 48993

You did not answer the question. Do you show the 40-60ma idle current when you put the xmit switch to xmit and meter to IP. In your video it showed no current in the IP position. So do you show 50-60ma idlet current on say 40 meters?

Thanks,
Mark, WB0IQK

48994. Re: TS-530S alignment step question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-12 20:41:14 UTC
From: louis.wilen@...
Topic: 48907 Message: 48994

Terry,

Thanks for the very helpful reply.

As a bit of background, I'm the original owner of my TS-530S and the alignment check that I'm doing now is the first one that has been done in its 32 year history. I'm a strong subscriber to the rule of "If it's not broken, don't fix it". That said, now that I have some of the right equipment to check the alignment -- and since 32 years and thousands of operating hours have passed, I figured that I'd at least check what I could. I did find that a few voltages were slightly out of spec so I adjusted them, so I figure that this exercise has been worth it.

My Fluke DMM is good up to 100 Khz.

Yes, this is largely a learning exercise. I'm real careful and I figure that the potential reward outweighs the risk. I'm not touching any slugs that don't truly need touching -- but thanks for the warning!

Louis
W3LMW

P.S. A local ham / semi-retired RF engineer was kind enough to do a NIST-traceable calibration for me on my Tek 2445 scope. Fluke checked my DVM calibration at no charge. I calibrated my frequency counter by using my calibrated HP 3586A. I don't have an RF signal generator yet -- watching for the right deal on an HP 3325A, since it will do just about everything that I need, including being an RF signal generator and sweep.

48995. Re: [TS-520_820_530_830] Re: Ts 820 problems on 80m

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-12 21:32:54 UTC
From: Jan Servaites
Topic: 48987 Message: 48995

He's in the tune mode, not LSB/USB; In the "tune" mode, you need to get some ALC showing first, then some Ip will be showing.
And the "load" dial is fully CCW....place it in the middle, is a good place to start with.
Jan N8CBX

Mark Gilger mgilger@... [TS-520_820_530_830] wrote:

>
>
> When you flip the switch to the IP position, I did not see any meter
> deflection. It should go up to about 50-60ma and yours showed 0. Do
> you get IP 50-60ma on the other bands, just not on 80?
>
> Mark, WB0IQK
>
>

48996. Re: [TS-520_820_530_830] Re: Ts 820 problems on 80m

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-12 20:08:02 UTC
From: kf5vhy@...
Topic: 48987 Message: 48996

Yes Mark. Idle current is at 60 ma on 40m.

Thanks,

Duff Morrow
KF5VHY

48997. Re: [TS-520_820_530_830] Re: Ts 820 problems on 80m

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-13 02:36:06 UTC
From: Mike W5RKL
Topic: 48987 Message: 48997

Jan,

The LOAD control is set fully CCW during initial transmitter tuning in TUNE mode, not in the middle of its travel as you have indicated.

IP current flows in the final tubes regardless of the Mode switch setting and whether RF is present at the final tube grids or not. TUNE mode reduces final tube screen voltage to lower the final amplifier's input power level but it does not reduce the final amplifier's idling current to zero.

73
Mike W5RKL

On 6/12/2014 4:32 PM, Jan Servaites jservaites@...
[TS-520_820_530_830] wrote:
>
> He's in the tune mode, not LSB/USB; In the "tune" mode, you need to
> get some ALC showing first, then some Ip will be showing.
> And the "load" dial is fully CCW....place it in the middle, is a good
> place to start with.
> Jan N8CBX
>
>
> Mark Gilger mgilger@... [TS-520_820_530_830] wrote:
>
>> When you flip the switch to the IP position, I did not see any meter
>> deflection. It should go up to about 50-60ma and yours showed 0. Do
>> you get IP 50-60ma on the other bands, just not on 80?
>>
>> Mark, WB0IQK
>>
>

48998. Re: Ts 820 problems on 80m

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-13 00:36:35 UTC
From: kf5vhy@...
Topic: 48987 Message: 48998

Terry,

CAR level was at 8. I tried this test. Still no movement on ALC.

Thanks,

Duff
KF5VHY

48999. Re: [TS-520_820_530_830] Re: Ts 820 problems on 80m

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-13 00:44:18 UTC
From: kf5vhy@...
Topic: 48987 Message: 48999

Mark,

Just and update. I am getting between 50 to 60ma plate idle on all bands when I'm not in tune mode.

Duff
KF5VHY

49000. Re: [TS-520_820_530_830] Re: Ts 820 problems on 80m

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-13 02:56:05 UTC
From: Mike W5RKL
Topic: 48987 Message: 49000

"Between 50 and 60ma plate idle on all bands"?

That sounds to me like unstable final amplifier IP idling current, possibly due to a dirty/corroded bias pot, corroded final tube sockets, or bad final tubes (heavy gassy final tubes). There could be other issues causing instability in the final amplifier's IP idling current. The USB and LSB IP idling current should be a stable 60ma in USB or LSB on ALL bands.

73
Mike W5RKL

On 6/12/2014 7:44 PM, kf5vhy@... [TS-520_820_530_830] wrote:
>
> Mark,
>
>
> Just and update. I am getting between 50 to 60ma plate idle on all
> bands when I'm not in tune mode.
>
>
> Duff
> KF5VHY
>

49001. Re: [TS-520_820_530_830] Re: Ts 820 problems on 80m

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-13 03:07:36 UTC
From: Duff Morrow
Topic: 48987 Message: 49001

Let me me rephrase that Mike. I was not in front of my rig when I posted. All band plate idle is 51ma. I knew it was between 50 and 60ma. I even posted earlier that 40m was at 60ma. That's wrong it's at 51ma.

I'm thinking it may be the drive tube. If I turn CAR all the way up. The drive doesn't peg on any band. I can now confirm that there is no drive shown on 10m also.

Duff Morrow KF5VHY

this post edited as it contained already posted material- 73 Joe wb7uqu

49002. Re: Ts 820 problems on 80m

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-13 12:08:11 UTC
From: wagstw46@...
Topic: 48987 Message: 49002

Duff:

OK whenever you have very low or missing drive on just one band it is often due to bad/dirty bandswitch contacts not switching in that bands Mixer and/or Drive coils in the Driver grid and plate circuit.

As the Driver tube ages low RF drive is typically manifested on 10 meters first and not 80 meters and first simple thing to do is to replace the Driver tube. Not typical that the Driver tube would be the cause of no RF drive on just 80 meters.

These problems are relatively easy to find and fix if you have a VTVM and RF probe.

You can run the TX Level diagram in the Service Manual to see where you are losing RF drive at on 80 meters. Not typical to lose the TIF signal as it is not band dependent. I would look at the output of the TX Mixer at MD. You should have approx 1.5v to 2.0v rms at MD. If it is low or missing then I would measure the VCO input level.

Since the 820 is a PLL based radio you could be missing the VCO signal on just 80 meters. The VCO signal provides the Local Oscillator (LO) signal for the TX Mixer. Again need a VTVM and RF Probe to measure VCO level at the TP on the RF board. Should be approx 1.0 volts. The 820 PLL still uses Het Osc crystals and the soldering can be bad at the leads. The xtals are on the PD board.

Absent basic test gear this can be difficult to troubleshoot.

Terry K9TW

49003. Re: [TS-520_820_530_830] Re: Ts 820 problems on 80m

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-13 12:21:44 UTC
From: wagstw46@...
Topic: 48987 Message: 49003

Hi Mike:

No disrespect to Jan but you are correct.

The Load control has nothing to do with ALC indication. As you note it is purely a function of sufficient RF drive voltage swing to overcome the dc offset set by the operating bias voltage level.

Almost all cases of no or low ALC indication are due to the RF voltage swing not being sufficient. Must be greater than approx 40rms rf volts for bias voltage of approx -55vdc.

I also never teach new people to start loading with the Plate Load control capacitor un-meshed. At 50% open it can make that initial plate current dip for tank resonance to be almost imperceptible to them. This serves to confuse them. When they get some experience they can start with heavy RF current transfer to the load right out of the shoot.

Suggest that all new members watch Alan W2AEW new video on loading a KW hybrid. He demonstrates how to load just as the instructions in all of the owners manuals direct them to do. Use the RF relative power position or an external watt meter and load for max RF output without exceeding max IP. Cant get any simpler.

Terry K9TW

49004. Re: [TS-520_820_530_830] Re: Ts 820 problems on 80m

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-13 15:43:24 UTC
From: Jan Servaites
Topic: 48987 Message: 49004

That is a very good point, Terry. After reviewing "Table 2 Initial Switch Settings for Transmission" (820 Owner's Manual), I didn't see any mention about presetting the Load control. I just experimented with the load control at full CCW and in the 50% range, and yes, the Ip dip is more pronounced. Awesome, thanks for the tip, I never realized that before this time. I stand corrected.
Jan N8CBX

On 6/13/2014 8:21 AM, wagstw46@... [TS-520_820_530_830] wrote:
>
> "...I also never teach new people to start loading with the Plate Load
> control capacitor un-meshed. At 50% open it can make that initial
> plate current dip for tank resonance to be almost imperceptible to
> them. This serves to confuse them. When they get some experience they
> can start with heavy RF current transfer to the load right out of the
> shoot...."
>
>
>

--
Directly from the N8CBX studio, Kettering OH

49005. Re: [TS-520_820_530_830] Re: Ts 820 problems on 80m

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-13 16:07:34 UTC
From: Jan Servaites
Topic: 48987 Message: 49005

Mike,
Well, I do agree with you. I noticed in the Tune mode, with the CAR control set mostly CCW (a low CAR setting), there isn't any indication of Ip on my 820's meter. In CW/USB/LSB mode, we agree that we can see the 60ma of Ip even with a low CAR setting, yes.
Jan N8CBX

On 6/12/2014 10:36 PM, Mike W5RKL w5rkl@... [TS-520_820_530_830] wrote:
>
> IP current flows in the final tubes regardless of the Mode switch
> setting and whether RF is present at the final tube grids or not. TUNE
> mode reduces final tube screen voltage to lower the final amplifier's
> input power level but it does not reduce the final amplifier's idling
> current to zero.
>
> .
--
Directly from the N8CBX studio, Kettering OH

49006. Re: [TS-520_820_530_830] Re: Ts 820 problems on 80m

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-13 16:16:57 UTC
From: wagstw46@...
Topic: 48987 Message: 49006

No problem Jan.

Sometime I would like to make a video on how the Pi-network works. Would have to include a little primer on parallel resonance and how tank circuit converts DC to RF.

I find it really helps to redraw it out of the Pi config and draw it as a conventional parallel resonant circuit with the tank cap in one leg and the tank coil and loading cap in series in the other leg. Can then place the 50 ohm dummy load resistor across the plate load cap and can see that you have 2 parallel paths for the RF circ current in the tank. With dummy load connected you have a resistor in parallel with capacitive reactance and with a real antenna connected have a complex impedance in parallel with the plate load cap. Depending on the antenna can have inductive or capacitive component. Easiest to just think of it as 2 parallel resistors and remember how current divides between them.

With the Plate Load capacitor plates fully meshed (full CCW) you have maximum capacitance and we know that capacitive reactance is inversely related to capacitance (1/2Pi x F x C). High capacitance means low Xc which means that the approx 2.8 rf amps of circ current is flowing thru this low reactance of the plate load cap and not thru the dummy load or antenna. When you open the plates you lower the capacitance which then raises the Xc so RF circ current in the Tank starts to flow heavier in the dummy load resistor and less in the plate load cap. It is actually very simple ohms law for parallel resistors. When fully loaded to approx 100 watts out you will have close to 1.4 rf amps flowing in the Plate load cap and approx 1.4 rf amps flowing thru the 50 ohm dummy load.

Anytime you move Plate load cap then you have to touch up Plate Tuning (tank) cap to restore the tank to resonance.

This behavior explains why it is a good reason not to load these parallel 6146 grid driven tetrode Class AB-1 linear amplifiers using the old dip and load method. The more you open the plates of the Plate load cap the heavier you load and the less and less discernable the plate current dip becomes. This is not the case with RF voltage that the RF position of the panel meter reads or RF watts on an external wattmeter. Always able to see a very obvious and well defined peak in RF relative power or real power on your wattmeter.

That is why all the KW manuals describe using the RF meter position to Load these radios and why they provided it. Some people somehow think of using the RF meter position only as some kind of final "fine tuning" step after dipping and loading and I dont know where they find that usage described in their manual?

Anyway I dont load with the plates fully meshed anymore either as I have been doing this for a very long time and can pretty quickly load on the fly, but with new folks it is good idea to start by having plates fully meshed so they can very clearly see that initial tuning of the Tank to resonance.

Have a great day.

Terry K9TW

49007. Antenna tuner question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-13 19:05:25 UTC
From: hsumaverick01@...
Topic: 49007 Message: 49007

I am currently looking to possibly purchase the mfj apartment/balcony antenna for my home hf station due to me living in a townhome currently and not able to put up much of an antenna there. I know from reading about it that it has a coil that can be adjusted to allow it to be operated on the different bands it supports. My question is with the adjustment being made on the antenna would I need a tuner for the antenna for me to use it with my TS-520? This is the link to the product description of the antenna I am referring to:

MFJ Enterprises Inc. http://www.mfjenterprises.com/Product.php?productid=MFJ-1622

MFJ Enterprises Inc. http://www.mfjenterprises.com/Product.php?productid=MFJ-1622 The MFJ-1622 Apartment Antenna covers 40 through 2 Meters, mounts outdoor to windows, balconies, railings, and works great indoors mounted to desks, tables, and bookshelves!

View on www.mfjenterprises.com
http://www.mfjenterprises.com/Product.php?productid=MFJ-1622
Preview by Yahoo

Thanks,
Chris
N5HSU

49008. Re: [TS-520_820_530_830] Antenna tuner question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-13 21:14:23 UTC
From: Mike W5RKL
Topic: 49007 Message: 49008

Chris,

If you follow the instructions that are included with the antenna, cut and attach the make the tap according to the instructions for each band, and cut and attach the radial wires according to the instructions, the antenna will work without a tuner. However, you must understand that the antenna is not for permanent use, a high level of RF will be present which can cause problems with transmissions. I have a similar antenna I purchased when I lived in an apartment in Germany, working for General Dynamics Network System at HQ EUCOM, Vaihingen, Germany. The antenna was mounted on the window sill about a foot from the stations with only one radial on 20 meters, not a good location for the antenna. The radial ran around the base board of the bedroom. Needless to say there was plenty of RF in the shack. I ended up replacing the antenna with a 3 element yagi that hung from the attic rafters (many German house attics are huge, long and tall enough to walk around upright with 4 feet to spare above my head), I lived on the top floor and had access to the attic. The building I worked in on base had an attic that ran the entire length of the building, at least 100 feet long or more. One could run a half wave horizontal 40 meter dipole without bending the end and still have over 50 feet to spare. I wish my attic was that big!!

73
Mike W5RKL

On 6/13/2014 2:05 PM, hsumaverick01@... [TS-520_820_530_830] wrote:
>
> I am currently looking to possibly purchase the mfj apartment/balcony
> antenna for my home hf station due to me living in a townhome
> currently and not able to put up much of an antenna there. I know
> from reading about it that it has a coil that can be adjusted to allow
> it to be operated on the different bands it supports. My question is
> with the adjustment being made on the antenna would I need a tuner for
> the antenna for me to use it with my TS-520? This is the link to the
> product description of the antenna I am referring to:
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> MFJ Enterprises Inc.
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>
>
>
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> The MFJ-1622 Apartment Antenna covers 40 through 2 Meters, mounts
> outdoor to windows, balconies, railings, and works great indoors

> mounted to desks, tables, and bookshelves!
>
> View on www.mfjenterprises.com
> <http://www.mfjenterprises.com/Product.php?productid=MFJ-1622>
>
> Preview by Yahoo
>
> Thanks,
>
> Chris
>
> N5HSU
>
>

49009. RE: [TS-520_820_530_830] Antenna tuner question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-13 21:46:24 UTC
From: Brad Allen
Topic: 49007 Message: 49009

This is not really a great antenna. A friend of mine with similar issues as you is going to put a automatic antenna on his vehicle. He is going to run a cable from his home and put an electrical box outside with a coax connector in it. He is going to make up a jumper cable from the truck to the box and they sure can't say he put an antenna up on the property. Just don't forget to disconnect in the AM before you have had your coffee!! Brad KB2CHY

From: TS-520_820_530_830@yahoogroups.com
[mailto:TS-520_820_530_830@yahoogroups.com]
Sent: Friday, June 13, 2014 5:14 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830] Antenna tuner question

Chris,

If you follow the instructions that are included with the antenna, cut and attach the make the tap according to the instructions for each band, and cut and attach the radial wires according to the instructions, the antenna will work without a tuner. However, you must understand that the antenna is not for permanent use, a high level of RF will be present which can cause problems with transmissions. I have a similar antenna I purchased when I lived in an apartment in Germany, working for General Dynamics Network System at HQ EUCOM, Vaihingen, Germany. The antenna was mounted on the window sill about a foot from the stations with only one radial on 20 meters, not a good location for the antenna. The radial ran around the base board of the bedroom. Needless to say there was plenty of RF in the shack. I ended up replacing the antenna with a 3 element yagi that hung from the attic rafters (many German house attics are huge, long and tall enough to walk around upright with 4 feet to spare above my head), I lived on the top floor and had access to the attic. The building I worked in on base had an attic that ran the entire length of the building, at least 100 feet long or more. One could run a half wave horizontal 40 meter dipole without bending the end and still have over 50 feet to spare. I wish my attic was that big!!

73
Mike W5RKL

On 6/13/2014 2:05 PM, hsumaverick01@... [TS-520_820_530_830] wrote:

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<http://www.mfjenterprises.com/Product.php?productid=MFJ-1622> View on www.mfjenterprises.com

Preview by Yahoo

Thanks,

Chris

N5HSU

49010. Re: [TS-520_820_530_830] Antenna tuner question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-13 22:29:58 UTC
From: John Davidson
Topic: 49007 Message: 49010

MFJ apartment antenna , Need a tuner ? No ! you need a decent SWR meter to set the tap on that coil and a good counterpoise wire run , no additional tuner.
73 K8JD

On Friday, June 13, 2014 5:47 PM, "'Brad Allen' ballen@frontiernet.net [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

This is not really a great antenna. A
friend of mine with similar issues as you is going to put a automatic antenna
on his vehicle. He is going to run a cable from his home and put an electrical
box outside with a coax connector in it. He is going to make up a jumper cable
from the truck to the box and they sure can’t say he put an antenna up on
the property. Just don’t forget to disconnect in the AM before you have
had your coffee!! Brad KB2CHY

From:TS-520_820_530_830@yahoogroups.com [mailto: TS-520_820_530_830@yahoogroups.com]
Sent: Friday, June 13, 2014 5:14
PM
To: TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830]
Antenna tuner question

Chris,

If you follow the instructions that are included with the antenna, cut and
attach the make the tap according to the instructions for each band, and cut
and attach the radial wires according to the instructions, the antenna will
work without a tuner. However, you must understand that the antenna is not for
permanent use, a high level of RF will be present which can cause problems with
transmissions. I have a similar antenna I purchased when I lived in an
apartment in Germany ,
working for General Dynamics Network System at HQ EUCOM, Vaihingen , Germany .
The antenna was mounted on the window sill about a foot from the stations with
only one radial on 20 meters, not a good location for the antenna. The radial
ran around the base board of the bedroom. Needless to say there was plenty of
RF in the shack. I ended up replacing the antenna with a 3 element yagi that
hung from the attic rafters (many German house attics are huge, long and tall
enough to walk around upright with 4 feet to spare above my head), I lived on
the top floor and had access to the attic. The building I worked in on base had
an attic that ran the entire length of the building, at least 100 feet long or
more. One could run a half wave horizontal 40 meter dipole without bending the
end and still have over 50 feet to spare. I wish my attic was that big!!

73
Mike W5RKL

On 6/13/2014 2:05 PM, hsumaverick01@... [TS-520_820_530_830] wrote:

>I am
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>The MFJ-1622 Apartment Antenna covers 40 through 2 Meters, mounts outdoor to windows,
balconies, railings, and works great indoors mounted to desks, tables, and bookshelves!

>View on www.mfjenterprises.com Preview by Yahoo
>
>
>Thanks,
>Chris
>N5HSU

49011. Re: Antenna tuner question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-13 21:18:53 UTC
From: clifford wright
Topic: 49007 Message: 49011

Well if the manufacturers info is to be believed, you won't need an antenna tuner.
However you will most definitely need an SWR meter to set up the antenna for the band and frequency of interest. You would do that with your transceiver on low power and adjust the taps on the antenna for minimum reflected power.
Zl1BDA

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

49012. Re: [TS-520_820_530_830] Antenna tuner question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-13 22:52:59 UTC
From: KB1TCD
Topic: 49007 Message: 49012

The hybrid Kenwood radios do not require a tuner as long as the antenna you are using are within 3:1 SWR, the beauty of these radios is that you can use the
radio to tune it to the antenna you are using.
I use home made Off Center Dipole wire antennas that don't need a tuner no matter what radio you use and get great results!

73 from Mid Coast Maine, KB1TCD

49013. Re: Antenna tuner question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-14 14:35:31 UTC
From: T. Scott Griffin
Topic: 49013 Message: 49013

Hi Chris,

Mike and the others make very good points. Is there any way you can put up a dipole even if indoors, or perhaps a shortened loaded dipole on the balcony --like two Hamsticks? I have had several experiences with my condo and HOA restricted antennas. In one case I put out a sloper for 20 meters from the balcony to the ground, and put it out at night, taking it in after operating and before dawn. That worked pretty well. I also have a Buddistick shortened loaded vertical. That requires a counterpoise as does the MFJ antenna, and it gives me plenty of Rf in the shack. I could tell by the zapping on my fingers on the CW key. The Rf made the CW keyer give odd dots and dashes. I was able to cure the Rf problems by inserting an Rf choke (from MFJ) into the transmission line.

The MFJ apartment/condo antenna is one option, but explore others and don’t give up-get on the air with your 520 and have fun trying different antennas.

73s, Scott, N6CIC

Sent from Windows Mail

49014. Re: Antenna tuner question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-14 15:43:28 UTC
From: Rich Jones
Topic: 49007 Message: 49014

I would recommend the MFJ-1624 antenna for your situation. I have used mine on a deck rail with ground rod and one short counterpoise with 100 watts and worked the south pacific from Michigan on 40 meters! It comes with a two piece antenna rod but I used "Ham Sticks" one for 40-20 and even 75 meters. Good Luck! Rich K8UV

49015. Re: [TS-520_820_530_830] Re: Antenna tuner question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-14 20:59:20 UTC
From: Mike W5RKL
Topic: 49007 Message: 49015

Chris and others,

The MFJ-1622 and MFJ-1624 are basically the same antenna. Chris said he has the MFJ-1622.

The MFJ-1622 is the apartment dwellers window mount antenna.
The MFJ-1624 is the mobile antenna.

Both use the same manual tapping coil and same whip antenna.
Both have the similar power ratings.

The MFJ-1622 comes with everything, including 50 feet of coax cable with PL-259 on one end of the coax and eyelets on the other end of the coax plus 35 feet of counterpoise wire.

The MFJ-1624 requires additional accessories such as coax cable, counterpoise wire, and a mount.

Both will require an SWR meter for proper tuning of the antenna.
The antennas must be tuned, manually, when switching bands. This means the tap on the loading coil must be moved to a different tap and the counterpoise will have to be cut to proper length.

Proper safety precautions must be followed to prevent accidental RF burns!!

Both antennas will result in a large amount of RF in the shack if the antenna is mounted in close proximity to the operating position.

The antennas will work. I have a German version, exactly the same as the MFJ-1622, and I worked the states from Leonberg, Germany, 12km from Stuttgart (I was DA1TNJ) with 80 watts on 20 CW. As I said earlier, the antenna was mounted on a window sill about 2 feet from the operating position.

Chris, if you want more information, the following links will allow you to download the manuals for both antennas

MFJ-1622
http://www.mfjenterprises.com/support.php?productid=MFJ-1622

MFJ-1624
http://www.mfjenterprises.com/support.php?productid=MFJ-1624

Each page has a link that will allow you to down load the manual for each antenna.

73
Mike W5RKL

On 6/14/2014 10:43 AM, Rich Jones michjonezee@...
[TS-520_820_530_830] wrote:
> I would recommend the MFJ-1624 antenna for your situation. I have used
> mine on a deck rail with ground rod and one short counterpoise with
> 100 watts and worked the south pacific from Michigan on 40 meters! It
> comes with a two piece antenna rod but I used "Ham Sticks" one for
> 40-20 and even 75 meters. Good Luck! Rich K8UV
>

49016. HAZARD AWARENESS

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-15 17:48:43 UTC
From: wagstw46@...
Topic: 49016 Message: 49016

Members

I do not know if this topic has been covered here or not and if it has I apologize for covering old ground.

I have several KW hybrids that I have repaired and aligned and I leave the covers off and use them primarily to take measurements to assist me in troubleshooting. Among other things I have installed the black Nichicon Type GN 900vdc anode supply HV filter caps in these radios. These are the ones that the top of the can is bare metal that instead of having rupture diaphragms on the bottom between the terminals they have an X shaped relief cut in the bare exposed aluminum top.

Today I had a TS-520S on the bench and the Yellow speaker wire cable was in my way so I coiled it up and was tucking it in the space between the VFO and the AVR board and on top of the 2 HV filter caps when there was a very loud bang that scared the heck out of me. When I recovered I could see a burned mark on the aluminum can top. Fortunately I did not get shocked and no real damage done.

I grabbed my DMM and measured from top of the can to chassis ground and read 450vdc! Only the first cap in the 2 series string has potential on the exposed aluminum.

The original tall factory Black Marcom units have no exposed metal and the Blue vinyl case replacement caps have a fiber disc cover on the top and no can metal is exposed. I have the Blue style replacement caps in both of my TS-830 operating rigs. I believe that Ken K4EAA formerly sold these. I have been installing the Black GN units that I have bought from Ken K4EAA and from Newark and other suppliers in all my customers radios for quite some time now and they all have the top of the can exposed. I never gave it any thought.

So the lesson is that we now have a rattlesnake on the top side of the radio that is not inside the metal shield of the PA cage. If you were to touch the chassis with one hand and make contact with the bare top of this HV filter cap you would be in for a very nasty surprise.

I am thinking about making or buying a slip on plastic or vinyl cap for this 1st capacitor in the doubler filter to protect future customers. I am going to take a look at Lowes to see what they might have that would just slip over the capacitor.

Again if this is well known I must have been sleeping. This was a surprise that I didnt need to experience today.

Not sure it qualifies as a near miss event, but as close as I like to get. I dont want anyone to get shocked or worse.

Happy Fathers Day to All

Terry K9TW

49017. Re: [TS-520_820_530_830] HAZARD AWARENESS

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-15 18:22:03 UTC
From: Craig Roberts
Topic: 49016 Message: 49017

Ouch! I'm glad you escaped, Terry. Whew!

Just last week I installed red 3/4-inch round vinyl stick-ons on the top of my hybrids' HV caps both for warning and self-protection purposes. I obtained them at a local craft store (Michael's, in this case). I had read about the danger somewhere in this forum's archives, I believe.

I just did a little search on eBay and found the same "sticky" things from a vendor advertising "vinyl polka dots", or some such.

73,

Craig
W3CRR

49018. Re: [TS-520_820_530_830] HAZARD AWARENESS

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-15 18:29:00 UTC
From: Gordon JC Pearce
Topic: 49016 Message: 49018

On Sun, Jun 15, 2014 at 02:22:03PM -0400, Craig Roberts crgrbrts@... [TS-520_820_530_830] wrote:
> Ouch! I'm glad you escaped, Terry. Whew!
>
> Just last week I installed red 3/4-inch round vinyl stick-ons on the top
> of my hybrids' HV caps both for warning and self-protection purposes. I
> obtained them at a local craft store (Michael's, in this case). I had
> read about the danger somewhere in this forum's archives, I believe.
>
> I just did a little search on eBay and found the same "sticky" things
> from a vendor advertising "vinyl polka dots", or some such.

They're about the same size as the vinyl "pipe caps" you get for the end of certain sizes of heliax, aren't they? I must have a rummage in the junkbox at work...

--
Gordonjcp MM0YEQ

49019. Re: [TS-520_820_530_830] HAZARD AWARENESS

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-15 18:29:51 UTC
From: Jan Servaites
Topic: 49016 Message: 49019

Terry,
What a coincidence. I actually learned of this about a year ago when I visited a seller of a TS830 here in Dayton. He runs a hobby business on Ebay and buys, fix-up, then resells Ham equipment. He had replaced the two 450V caps and he was point his finger to the newly installed caps (while the 830 was switched on), when he got zapped from that exposed aluminum top surface! From right then on, we both got educated about the hazard.
I have placed 1" wide electrical tape over the cap's top surface (and trim the excess w/exacto knife) from now on. But, even with the insulating tape installed, I'm still cautious, and I always remember that day in his basement shop.
Jan N8CBX (I own that 830 now)

wagstw46@... [TS-520_820_530_830] wrote:

>
>
> I grabbed my DMM and measured from top of the can to chassis ground
> and read 450vdc! Only the first cap in the 2 series string has
> potential on the exposed aluminum.
>
>
>
>

49020. Re: [TS-520_820_530_830] HAZARD AWARENESS

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-15 18:18:36 UTC
From: Van Lincoln
Topic: 49016 Message: 49020

You could try 'aluminum tubing end caps' to check sizes/costs/availability.
I know that (DXE) DX Engineering has a selection of them.
Wd8aam
Van

this post edited as it contained already posted material. 73 Joe wb7uqu

49021. Hybrid Net Update (June 15, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-15 19:35:06 UTC
From: Mark Gilger
Topic: 49021 Message: 49021

Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

The net recently celebrated it□s 2nd year in existence on November 1st, 2013. The yearly check-in totals are posted at the bottom of this message. It showed we had a 10% increase in our Saturday check-ins and an 8% on Sunday as compared to the 2012 check-ins.

The Saturday□s net was run by me, WB0IQK. There were 19 stations checking in under good band conditions. We had the following number of radios checking in.

6 running TS-520(x)
3 running TS-530(x)
2 running TS-820(x)
2 running TS-830S
1 running 599 twins

The reset were running non hybrid equipment.

I was running my TS-830s into an Drake L4B amplifier

The Sunday net was run by me, WB0IQK. There were 16 stations checking in under poor band conditions. We had the following number of radios checking in.

2 unning TS-520(x)
1 running TS-530(x)
2 running TS-820(x)
2 running TS-830S
0 running TS-510

The reset were running non Kenwood hybrid equipment.

I was running my TS-820s twins (TS-820S + R820).

We have been having several people checking in regularly with their TS-430, TS-440, and TS-940□s, which of course is not a hybrid, although over 30+ years old. Everyone is welcome as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a net control station, please send me an email. Currently it's just myself, WB2KNR and WB0SGA. I would like to get several more. If we do, we can alternate so everyone might be on a 3-4 week rotation. It's a lot of fun and a good way to make sure you station is optimized.

For anyone that has not heard, we have a new web site that WB4HFN is hosting. He currently has a very nice site for Drake, Collins and Heathkit and now Kenwood Hybrids. Good quality manuals plus sale flyers and brochures will be found here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 ☐ Oct. 2012 Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins

November 2013, Saturday☐s net total = 94, Sunday☐s total = 85
December 2013, Saturday☐s net total = 87, Sunday☐s total = 103
January 2014, Saturday☐s net total = 71, Sunday☐s total = 82
February 2014, Saturday☐s net total = 80, Sunday☐s total = 85
March 2014, Saturday☐s net total = 82, Sunday☐s total = 73
April 2014, Saturday☐s net total = 64, Sunday☐s total =43
May 2014, Saturday☐s net total = 66, Sunday☐s total = 35
June 2014, Saturday☐s net total = 28, Sunday☐s total = 44 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

49022. Re: [TS-520_820_530_830] HAZARD AWARENESS

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-15 21:44:08 UTC
From: wagstw46@...
Topic: 49016 Message: 49022

If you want a nice neat professional looking and permanent fix I agree that vinyl end caps for aluminum tubing would be a good way to go. Very easy to just slip on.

The cap OD is 35 mm or 1 3/8 inch.

DX Engineering sells a black vinyl cap in that ID that is 1 inch long. They sell them 8 for $8.95 plus shipping.

I didnt get chance to go to Lowes or Home Depot today. I plan to do so tomorrow to see what they have.

I think we need to have a cover that wont prevent proper pressure relief vent operation.

Terry K9TW

49023. RE: [TS-520_820_530_830] HAZARD AWARENESS

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-15 22:50:40 UTC
From: Rob
Topic: 49016 Message: 49023

Thank you for the heads up Terry,

I have often wondered whether the tops of the caps were live, I just assumed they were and treated them like as such,

Cheers,

Rob. VK3BRS

No virus found in this message. Have a nice day ! :-)
Checked by AVG - www.avg.com
Version: 2014.0.4592 / Virus Database: 3955/7645 - Release Date: 06/09/14

49024. RE: [TS-520_820_530_830] HAZARD AWARENESS

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-15 23:36:49 UTC
From: wagstw46@...
Topic: 49016 Message: 49024

Rob:

Only first one in the string is hot, but you are correct best to treat both as hot. Of course should never be a reason to bare hand touch them, but they should be protected from inadvertent touching.

If you look at Nichicon App notes they talk about not relying on the case for protection and to contact the engineering department if need insulated cases.

Couple of Fundamentals Of Electrical Safety include:
1. Nothing is Dead and unless verified de-energized and grounded.
2. Never go within reaching or falling distance of energized equipment.

That is why we have talked so much about how to safely deal with the top of the RF Plate choke inside the PA cage.

Easy to point at something with no intention of touching and mis-judge how close you are.

When it happened my first inclination was that the cap was defective and as I thought more about it realized it was not. I should have known better.

Terry K9TW

49025. Re: [TS-520_820_530_830] HAZARD AWARENESS

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-16 00:15:03 UTC
From: Ron
Topic: 49016 Message: 49025

Terry I learned the hard way about 2months ago I touched the top of both cans with two fingers in an effort as u to get the speaker wire out of the way . Nobody had to tell me to move my fingers !!!!! And as u I tested the top of the capacitors 450 v. Had I been touching the chassis elsewhere. I might be a SK now but not the case. So ppl be ware. !!!!! Sometimes experience costs !

Ron KK4PWF

On Jun 15, 2014, at 6:36 PM, "wagstw46@yahoo.com [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
> Rob:
>
> Only first one in the string is hot, but you are correct best to treat both as hot. Of course should never be a reason to bare hand touch them, but they should be protected from inadvertent touching.
>
> If you look at Nichicon App notes they talk about not relying on the case for protection and to contact the engineering department if need insulated cases.
>
> Couple of Fundamentals Of Electrical Safety include:
> 1. Nothing is Dead and unless verified de-energized and grounded.
> 2. Never go within reaching or falling distance of energized equipment.
>
> That is why we have talked so much about how to safely deal with the top of the RF Plate choke inside the PA cage.
>
> Easy to point at something with no intention of touching and mis-judge how close you are.
>
> When it happened my first inclination was that the cap was defective and as I thought more about it realized it was not. I should have known better.
>
>
> Terry K9TW
>
>
>

49026. RE: [TS-520_820_530_830] HAZARD AWARENESS

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-16 01:15:49 UTC
From: pmarkavage@...
Topic: 49016 Message: 49026

I've used black electrical tape cover the exposed end of the cap. Worked well for 30 years. I don't need to get fancy with insulated end caps. If you take your time, you can make the tape installation even look neat.

Pete, wa2cwa

49027. RE: [TS-520_820_530_830] HAZARD AWARENESS

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-16 02:26:58 UTC
From: Brad Allen
Topic: 49016 Message: 49027

I would add #3 to that list. Never use two hands in any unit that may have high voltage. One hand should always be in your pocket.

Add one more that I follow: When in doubt ground it out!!

Brad KB2CHY

From: TS-520_820_530_830@yahoogroups.com
[mailto:TS-520_820_530_830@yahoogroups.com]
Sent: Sunday, June 15, 2014 8:15 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830] HAZARD AWARENESS

Terry I learned the hard way about 2months ago I touched the top of both cans with two fingers in an effort as u to get the speaker wire out of the way . Nobody had to tell me to move my fingers !!!!! And as u I tested the top of the capacitors 450 v. Had I been touching the chassis elsewhere. I might be a SK now but not the case. So ppl be ware. !!!!! Sometimes experience costs !

Ron KK4PWF

On Jun 15, 2014, at 6:36 PM, "wagstw46@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Rob:

Only first one in the string is hot, but you are correct best to treat both as hot. Of course should never be a reason to bare hand touch them, but they should be protected from inadvertent touching.

If you look at Nichicon App notes they talk about not relying on the case for protection and to contact the engineering department if need insulated cases.

Couple of Fundamentals Of Electrical Safety include:

1. Nothing is Dead and unless verified de-energized and grounded.

2. Never go within reaching or falling distance of energized equipment.

That is why we have talked so much about how to safely deal with the top of the RF Plate choke inside the PA cage.

Easy to point at something with no intention of touching and mis-judge how close you are.

When it happened my first inclination was that the cap was defective and as I thought more about it realized it was not. I should have known better.

Terry K9TW

49028. RE: [TS-520_820_530_830] HAZARD AWARENESS

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-15 23:33:00 UTC
From: clifford wright
Topic: 49016 Message: 49028

This, of course doesn't just apply to the 820 series.
There are many transmitters that use series connected electrolytics to
get a high voltage high value smoothing capacitor. The record I have
seen was 5 or 6 in a 1KW linear!!
They MUST always be treated with respect until one KNOWS that the case
is grounded, or at least well insulated.
73 ZL1BDA

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

49029. TS 520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-15 23:25:01 UTC
From: Gerald
Topic: 6634 Message: 49029

Does anyone know if the remote VFO plug needs to be attached to the back of the TS-520? I can't remember.I have never used a 520, I mostly use the 820 with a remote VFO hooked up and never noticed on the 520

Thanks
Vic
NB4T

"sig line" removed from this post. please read group policy concerning "sig(signiture) lines.
73 Joe wb7uqu

49030. Re: [TS-520_820_530_830] TS 520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-16 04:27:01 UTC
From: Joseph Stiles
Topic: 6634 Message: 49030

Vic,

Yes..or lacking proper 9 pin jumper plug...you can use a stiff piece of wire to connect holes for pins 8 & 9 together on rear socket. Without this...the rig won't work.

Consult Pg 10, Fig 4 of the TS-520 Operators manual, or Pg 8 of the TS-520S Operators manual

73 Joe
WB7UQU

On Sunday, June 15, 2014 9:16 PM, "Gerald gvpurvis@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Does anyone know if the remote VFO plug needs to be attached to the back of the TS-520? I can't remember.I have never used a 520, I mostly use the 820 with a remote VFO hooked up and never noticed on the 520
>
>Thanks
>Vic
>NB4T
>
>"sig line" removed from this post. please read group policy concerning "sig(signiture) lines.
>   73 Joe wb7uqu
>
>
>
>
>

49031. Re: [TS-520_820_530_830] TS 520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-16 06:24:26 UTC
From: Gordon JC Pearce
Topic: 6634 Message: 49031

On Sun, Jun 15, 2014 at 06:25:01PM -0500, Gerald gvpurvis@... [TS-520_820_530_830] wrote:
> Does anyone know if the remote VFO plug needs to be attached to the back of the TS-520? I can't remember.I have never used a 520, I mostly use the 820 with a remote VFO hooked up and never noticed on the 520

Yes. Details are in the manual, but without it the VFO has no power supply and you won't get far like that.

--
Gordonjcp MM0YEQ

49032. RE: [TS-520_820_530_830] HAZARD AWARENESS

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-16 11:13:50 UTC
From: wagstw46@...
Topic: 49016 Message: 49032

Yes tape is certainly an option, but I am not a tape or glue kind of guy when it comes to my radios.

Everyone has different definitions of quality and how they spend their discretionary income.

Also, as I mentioned probably not a good idea to impede the pressure relief venting which tape could certainly do.

Terry K9TW

49033. RE: [TS-520_820_530_830] HAZARD AWARENESS

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-16 11:22:50 UTC
From: wagstw46@...
Topic: 49016 Message: 49033

The one hand in pocket thing is mentioned a lot and sounds good, but in my opinion not very practical. You often are using the other hand to hold flashlite, use a tuning tool, change meter range etc. Plus could affect your balance.

Yes nothing is Dead unless verified de-energized with a known good contact voltage meter and then grounded. It is the only safe way to bare hand touch anything, but the practice is seldom religiously observed. A contact meter should be used and not a proximity device. It is called a "live-dead-live" test.

De-energized just means you turned off the switch or breaker and maybe placed a Red tag or Lock on it. Dead means you de-energized it and then tested to verify you opened the correct switch before applying the safety ground. That means literally affixing the ground and not just tapping it on the point.

Terry K9TW

49034. Re: HAZARD AWARENESS

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-16 12:41:35 UTC
From: Brian Allen
Topic: 49016 Message: 49034

Terry,

Thanks for the informaiton. I just replaced the caps in my 530. I will take a look.

I had a mfj 12 v switching power supply to go bad. While the unit was on, I was inspecting and touched the top of one of the electrolytic caps. The shock was so bad my arm shook back and forth.

Learned never to do that again!

Brian KB4MNG

49035. Re: [TS-520_820_530_830] TS 520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-16 12:42:25 UTC
From: Tom Maier
Topic: 6634 Message: 49035

I can actually answer this one because it bit me just a week or so ago.

I purchased a TS-520 from a guy at a hamfest, lugged it to the car (that thing is heavy and his trunk was as far from my trunk as it could have been and still been in the same county:-), got it home, fired it up...and... nuthin'! I could tell that major parts of the rig were operational but no signals could be heard.

Just about the time that I was feeling that the seller "had seen me coming" someone on this very group mentioned that when a remote VFO is not used, a dummy plug has to be in place to supply +V to a number of circuits, the internal VFO being the most obvious.

Looking at the schematic, I quickly determined that pins 8 and 9 (If memory serves me) need to be shorted together for the internal VFO to receive power. I confirmed this fact with a clip lead and then, since I didn't have a plug that fit (It was a 9 pin tube socket for crying out loud...who does that?) I soldered a jumper in and voila! the rig works as advertized. Apparently, the previous owner left the plug on the desk at home.

Confirm the pin numbers before you go in with a soldering iron, but I'm sure the missing plug is the problem.

Tom K3WFN

On Sun, Jun 15, 2014 at 7:25 PM, Gerald gvpurvis@yahoo.com [TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
> Does anyone know if the remote VFO plug needs to be attached to the back
> of the TS-520? I can't remember.I have never used a 520, I mostly use the
> 820 with a remote VFO hooked up and never noticed on the 520
>
> Thanks
> Vic

> NB4T
>
> "sig line" removed from this post. please read group policy concerning
> "sig(signiture) lines.
> 73 Joe wb7uqu
>
>
>

49036. Re: [TS-520_820_530_830] TS 520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-16 14:29:12 UTC
From: Wes Will
Topic: 6634 Message: 49036

On 06/16/2014 07:42 AM, Tom Maier carvintom@...
[TS-520_820_530_830] wrote:
> I can actually answer this one because it bit me just a week or so ago.

Not been bitten at all here, as much a was wrong with my 520SE at least
the jumper plug was provided.

> power. I confirmed this fact with a clip lead and then, since I didn't
> have a plug that fit (It was a 9 pin tube socket for crying out loud...who
> does that?)

Hey, I have used busted-off octal tube bases and (un-busted) tube
sockets for all sorts of things. They're perfect for a lot of uses,
cheap when you can scavenge the parts, and have that nifty "It WORKS!"
quality as well.

> I soldered a jumper in and voila! the rig works as

I am not exactly into modifying things, but this is one thing I am going
to do. I am going to bore a small mounting hole in the backplane close
to this plug and mount a switch there for a permanent jumper. Next time
I'm in St. Louis at the Gateway supply store (my electronics CRACK
shop!) I will be picking up a small bat-handle or similar with a control
lock cover of some sort on it.

here will be a label produced for the two positions, as well. "External
VFO Installed" and "Internal VFO ONLY" to be clear what the switch is
for. It will be locked in "INTERNAL ONLY" mode since I don't have an
external VFO that will do for a 520SE. Not that I know f anyway.

Hmmmmm.... I have the external VFO / SSB adapter box for that old
lead-weighted boar-anchor Heathkit Apache radio..... Nah, it won't be
anywhere near close I'm sure.)

--
Wes Will
N9KDY

49037. Re: [TS-520_820_530_830] TS 520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-16 14:51:25 UTC
From: Mike W5RKL
Topic: 6634 Message: 49037

If I may make a suggestion. I would think twice about soldering a jumper onto the Remote VFO 9 pin socket between pins 8 and 9. If you solder a jumper between pins 8 and 9 then you will not be able to use any remote VFO (VFO-520 or VFO-820) with your 520 without removing the soldered jumper between pins 8 and 9.

By the way, the VFO-520 and VFO-820 are the same VFOs and are interchangeable between the 520 and 820. That means a VFO-520 can be used with a 520 AND 820. The same goes for the VFO-820, it can be used with a 820 AND a 520, both without any changes what so ever in the cable and/or the 2 VFOs.

73
Mike W5RKL

On 6/16/2014 9:29 AM, Wes Will wwill@... [TS-520_820_530_830] wrote:
>
> On 06/16/2014 07:42 AM, Tom Maier carvintom@...
> [TS-520_820_530_830] wrote:
> > I can actually answer this one because it bit me just a week or so ago.
>
> Not been bitten at all here, as much a was wrong with my 520SE at least
> the jumper plug was provided.
>
> > power. I confirmed this fact with a clip lead and then, since I didn't
> > have a plug that fit (It was a 9 pin tube socket for crying out
> loud...who
> > does that?)
>
> Hey, I have used busted-off octal tube bases and (un-busted) tube
> sockets for all sorts of things. They're perfect for a lot of uses,
> cheap when you can scavenge the parts, and have that nifty "It WORKS!"
> quality as well.
>
> > I soldered a jumper in and voila! the rig works as
>
> I am not exactly into modifying things, but this is one thing I am going
> to do. I am going to bore a small mounting hole in the backplane close
> to this plug and mount a switch there for a permanent jumper. Next time
> I'm in St. Louis at the Gateway supply store (my electronics CRACK
> shop!) I will be picking up a small bat-handle or similar with a control
> lock cover of some sort on it.
>
> here will be a label produced for the two positions, as well. "External
> VFO Installed" and "Internal VFO ONLY" to be clear what the switch is

> for. It will be locked in "INTERNAL ONLY" mode since I don't have an
> external VFO that will do for a 520SE. Not that I know f anyway.
>
> Hmmmmm.... I have the external VFO / SSB adapter box for that old
> lead-weighted boar-anchor Heathkit Apache radio..... Nah, it won't be
> anywhere near close I'm sure.)
>
> --
> Wes Will
> N9KDY
>
>

49038. Re: [TS-520_820_530_830] TS 520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-16 15:24:14 UTC
From: Mike W5RKL
Topic: 6634 Message: 49038

I mean no disrespect but this is another example of where operators/owners did not take the time to read the operator's manual BEFORE attempting to operate their newly acquired KW hybrid. If the operator's manual was not included in the sale then download it, it's free, and read it first! A lot of operator error problems can be prevented if operator's would simply read the manual first. If you have problems understanding what the manual is telling you, come and ask for help but don't ignore reading the manual FIRST before you operator you newly acquired KW hybrid!

73
Mike W5RKL

On 6/16/2014 7:42 AM, Tom Maier carvintom@... [TS-520_820_530_830] wrote:
> I can actually answer this one because it bit me just a week or so ago.?
>
> I purchased a TS-520 from a guy at a hamfest, lugged it to the car
> (that thing is heavy and his trunk was as far from my trunk as it
> could have been and still been in the same county:-), got it home,
> fired it up...and... nuthin'!? I could tell that major parts of the
> rig were operational but no signals could be heard.?
>
> Just about the time that I was feeling that the seller "had seen me
> coming" someone on this very group mentioned that when a remote VFO is
> not used, a dummy plug has to be in place to supply +V to a number of
> circuits, the internal VFO being the most obvious.
>
> Looking at the schematic, I quickly determined that pins 8 and 9 (If
> memory serves me) need to be shorted together for the internal VFO to
> receive power.? I confirmed this fact with a clip lead and then,
> since I didn't have a plug that fit (It was a 9 pin tube socket for
> crying out loud...who does that?) I soldered a jumper in and voila!?
> the rig works as advertized.? Apparently, the previous owner left the
> plug on the desk at home.
>
> Confirm the pin numbers before you go in with a soldering iron, but
> I'm sure the missing plug is the problem.
>
> Tom K3WFN
>
>
> On Sun, Jun 15, 2014 at 7:25 PM, Gerald gvpurvis@...
> <mailto:gvpurvis@...> [TS-520_820_530_830]
> <TS-520_820_530_830@yahoogroups.com

> <mailto:TS-520_820_530_830@yahoogroups.com>> wrote:
>
> ?
> Does anyone know if the remote VFO plug needs to be attached to
> the back of the TS-520? I can't remember.I have never used a 520,
> I mostly use the 820 with a remote VFO hooked up and never noticed
> on the 520
>
> Thanks
> Vic
> NB4T
>
> "sig line" removed from this post. please read group policy
> concerning "sig(signiture) lines.
> ? ? ? ? ? ? ? ? ? 73 Joe wb7uqu
>
>
>

49039. Re: [TS-520_820_530_830] TS 520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-16 16:44:46 UTC
From: K5MYJ
Topic: 6634 Message: 49039

7 and 9 pin plugs can be made from a 7 or 9 pin socket and some brass wire from a hobby shop.

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"
----- Original Message -----
From: Wes Will wwill@...g [TS-520_820_530_830]
To: TS-520_820_530_830@yahoogroups.com
Sent: Monday, June 16, 2014 7:29 AM
Subject: Re: [TS-520_820_530_830] TS 520

On 06/16/2014 07:42 AM, Tom Maier carvintom@...
[TS-520_820_530_830] wrote:
> I can actually answer this one because it bit me just a week or so ago.

Not been bitten at all here, as much a was wrong with my 520SE at least
the jumper plug was provided.

> power. I confirmed this fact with a clip lead and then, since I didn't
> have a plug that fit (It was a 9 pin tube socket for crying out loud...who
> does that?)

Hey, I have used busted-off octal tube bases and (un-busted) tube
sockets for all sorts of things. They're perfect for a lot of uses,
cheap when you can scavenge the parts, and have that nifty "It WORKS!"
quality as well.

> I soldered a jumper in and voila! the rig works as

I am not exactly into modifying things, but this is one thing I am going
to do. I am going to bore a small mounting hole in the backplane close
to this plug and mount a switch there for a permanent jumper. Next time
I'm in St. Louis at the Gateway supply store (my electronics CRACK
shop!) I will be picking up a small bat-handle or similar with a control
lock cover of some sort on it.

here will be a label produced for the two positions, as well. "External
VFO Installed" and "Internal VFO ONLY" to be clear what the switch is
for. It will be locked in "INTERNAL ONLY" mode since I don't have an
external VFO that will do for a 520SE. Not that I know f anyway.

Hmmmmm.... I have the external VFO / SSB adapter box for that old
lead-weighted boar-anchor Heathkit Apache radio..... Nah, it won't be
anywhere near close I'm sure.)

--
Wes Will
N9KDY

49040. Re: [TS-520_820_530_830] TS 520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-16 14:36:42 UTC
From: Tom Maier
Topic: 6634 Message: 49040

I date back to the days when ALL radios glowed in the dark. There have been *many* times when I have used octal tube sockets and bases for connectors. Two of the old FT-243 (?) crystals would also fit into an octal tube socket so they were great for that, too.

The problem here is that you can't break the bottom off of a 9 pin tube and (well, not easily, that is) add a jumper and shove it into a 9 pin tube socket. That's kinda hard on the fingers:-)

Tom K3WFN

this post edited as it contained already posted material- 73 Joe wb7uqu

49041. Re: [TS-520_820_530_830] TS 520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-16 14:55:42 UTC
From: Tom Maier
Topic: 6634 Message: 49041

I took that into consideration, when and if (I doubt I will EVER do it)
plug an external VFO into my 520, I'll just snip out the jumper.

On Mon, Jun 16, 2014 at 10:51 AM, Mike W5RKL w5rkl@...
[TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
> If I may make a suggestion. I would think twice about soldering a jumper
> onto the Remote VFO 9 pin socket between pins 8 and 9. If you solder a
> jumper between pins 8 and 9 then you will not be able to use any remote VFO
> (VFO-520 or VFO-820) with your 520 without removing the soldered jumper
> between pins 8 and 9.
>
> By the way, the VFO-520 and VFO-820 are the same VFOs and are
> interchangeable between the 520 and 820. That means a VFO-520 can be used
> with a 520 AND 820. The same goes for the VFO-820, it can be used with a
> 820 AND a 520, both without any changes what so ever in the cable and/or
> the 2 VFOs.
>
> 73
> Mike W5RKL
>
>
>
>
>
> On 6/16/2014 9:29 AM, Wes Will wwill@farreaches.org [TS-520_820_530_830]
> wrote:
>
>
>
> On 06/16/2014 07:42 AM, Tom Maier carvintom@...
> [TS-520_820_530_830] wrote:
> > I can actually answer this one because it bit me just a week or so ago.
>
> Not been bitten at all here, as much a was wrong with my 520SE at least
> the jumper plug was provided.
>
> > power. I confirmed this fact with a clip lead and then, since I didn't
> > have a plug that fit (It was a 9 pin tube socket for crying out
> loud...who
> > does that?)
>
> Hey, I have used busted-off octal tube bases and (un-busted) tube

> sockets for all sorts of things. They're perfect for a lot of uses,
> cheap when you can scavenge the parts, and have that nifty "It WORKS!"
> quality as well.
>
> > I soldered a jumper in and voila! the rig works as
>
> I am not exactly into modifying things, but this is one thing I am going
> to do. I am going to bore a small mounting hole in the backplane close
> to this plug and mount a switch there for a permanent jumper. Next time
> I'm in St. Louis at the Gateway supply store (my electronics CRACK
> shop!) I will be picking up a small bat-handle or similar with a control
> lock cover of some sort on it.
>
> here will be a label produced for the two positions, as well. "External
> VFO Installed" and "Internal VFO ONLY" to be clear what the switch is
> for. It will be locked in "INTERNAL ONLY" mode since I don't have an
> external VFO that will do for a 520SE. Not that I know f anyway.
>
> Hmmmmm.... I have the external VFO / SSB adapter box for that old
> lead-weighted boar-anchor Heathkit Apache radio..... Nah, it won't be
> anywhere near close I'm sure.)
>
> --
> Wes Will
> N9KDY
>
>
>
>

49042. Re: [TS-520_820_530_830] TS 520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-16 16:10:01 UTC
From: Gerald Purvis
Topic: 6634 Message: 49042

Just thought I would clarify,the radio came in before the manual did. I would have printed one off the internet, but the printer did not work. Anyhow, thanks for the information.

Vic Purvis
NB4T

this post edited as it contained already posted material 73 Joe wb7uqu

49043. Re: [TS-520_820_530_830] TS 520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-16 19:14:54 UTC
From: W LEWIS
Topic: 6634 Message: 49043

When I got my first Hybrid it didn't come with the jumper plug. I found that a paper clip (cut in half) worked just fine.
Butch
KØPSA

On Monday, June 16, 2014 1:39 PM, "Gerald Purvis gvpurvis@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Just thought I would clarify,the radio came in before the manual did. I would have printed one off the internet, but the printer did not work. Anyhow, thanks for the information.

Vic Purvis
NB4T

this post edited as it contained already posted material 73 Joe wb7uqu

49044. Re: [TS-520_820_530_830] HAZARD AWARENESS

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-16 22:16:32 UTC
From: Joe Reed
Topic: 49016 Message: 49044

Terry,

Thank you for an important heads up . I never would have thought the top of the caps would be hot. But now I know.

At age 16 I had a nasty encounter with the finals of a Swan 350. A lesson that has allowed me to reach 59 without a repeat. High voltage demands respect. Glad you were not injured. Your post doctoral fellowship lectures on the care and feeding of Kenwood hybrids would be missed. Respect the HV.

73
Joe N9JR

Sent from my iPhone

49045. RE: [TS-520_820_530_830] HAZARD AWARENESS

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-16 23:11:51 UTC
From: Brad Allen
Topic: 49016 Message: 49045

Not so. Cardinal rule when repairing TV sets with HV. Same difference Terry. Have a lamp mounted so you don't need a flashlight. The reason for the hand in the pocket is to save you life. No complete circuit through the heart, thus the reason for one hand to be in your pocket. Have done it for many years and the very first thing I was taught in TV class. That was in 1964 my friend. Very practical advice to you. Brad KB2CHY

From: TS-520_820_530_830@yahoogroups.com
[mailto:TS-520_820_530_830@yahoogroups.com]
Sent: Monday, June 16, 2014 7:23 AM
To: TS-520_820_530_830@yahoogroups.com
Subject: RE: [TS-520_820_530_830] HAZARD AWARENESS

The one hand in pocket thing is mentioned a lot and sounds good, but in my opinion not very practical. You often are using the other hand to hold flashlite, use a tuning tool, change meter range etc. Plus could affect your balance.

Yes nothing is Dead unless verified de-energized with a known good contact voltage meter and then grounded. It is the only safe way to bare hand touch anything, but the practice is seldom religiously observed. A contact meter should be used and not a proximity device. It is called a "live-dead-live" test.

De-energized just means you turned off the switch or breaker and maybe placed a Red tag or Lock on it. Dead means you de-energized it and then tested to verify you opened the correct switch before applying the safety ground. That means literally affixing the ground and not just tapping it on the point.

Terry K9TW

49046. Re: [TS-520_820_530_830] HAZARD AWARENESS

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-17 00:18:04 UTC
From: Jim
Topic: 49016 Message: 49046

Probably worth mentioning that when replacing these caps, one should inspect the mounting clamps for any sharp edges or burrs that might inadvertently cut through the cap coverings as this could short the aluminum cap casing to ground when tightening the clamps.

Jim, KC1RM

this post edited as it contained already posted material 73 Joe wb7uqu

49047. Re: [TS-520_820_530_830] TS 520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-17 04:34:13 UTC
From: Wes Will
Topic: 6634 Message: 49047

On 06/16/2014 11:44 AM, 'K5MYJ' macklinbob@...
[TS-520_820_530_830] wrote:
> 7 and 9 pin plugs can be made from a 7 or 9 pin socket and some brass wire from a hobby shop.

Or you can take a defunct tube, stick the pins through a disc cut to the pin circle diameter, made from a piece of thick-ish hard/stiff plastic. Get the pin circle in the plastic disc exactly the right size, shape, and spacking by heating the base of the dead tube (and the pins mainly) with a hot-air heat-gun, then just press them into the plastic until they are all the way through the disc.

Pop the tube with the plastic disc now stuck on the bottom into a paper or plastic bag and proceed to gently beat the crap out of the glass part. Then snip the wires off the tube pins once you can get to it with the diagonal cutters.

Remove the last of the glass from the plastic disc, solder wires on the pins where they used to be connected to the tube elements being careful not to get things so hot the plastic disc sags and loses cohesion with the pins. Some fast-set epoxy applied first will help with this little problem.

The whole thing can be made using a pharmacy pill bottle, the amber sort, cut down a bit so you can reach the pins for soldering. This gives you a cylindrical cover by which you can grip the thing to plug it into the socket. Sockets can be mounted inside the same sort of pill bottle. If you use the larger size, you can use small nut/bolt sets on the ears of the socket mount to hold it to the bottom of the bottle. Then use a small hole saw bit, an appropriately-sized spade or Forstner bit, or a Dremel tool to cut out the pin circle from the bottom of the bottle, leaving the outside ring where the nut/bolt sets are.

Sounds like more work than it really is, it always comes out the right size and spacing, and you get rid of a dead tube at the same time. I can make a matching set in about ten minutes using two pill bottles, the heat gun, an old tube and socket, and a couple of drill bits.

Don't cut yourself when smashing the tube, or when fishing out the bits you want to re-use from amonst the busted bits of glass and tube elements. And DON'T breath in the dust from the tube elements once it is broken. Several sorts of odd metals in there, and "heavy metal poisoning" is not funny. (Nor is it getting sick to the stomach at the crap that is being passed off as music lately, either.)

--
Wes Will

N9KDY

49048. Re: HAZARD AWARENESS

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-17 04:46:28 UTC
From: T. Scott Griffin
Topic: 49048 Message: 49048

I am glad that Terry brought this hazard to everyone’s attention. I have those Nichicon aluminum caps installed in my 530S and accidentally touched the aluminum top of the first one in series and got a real scare. Measurement with my DVM from the top of the cap to ground gave something like 375 volts! Since then I have cut a piece of yellow self-adhesive insulating tape into a round circle that just covers the aluminum surface.

Scott, N6CIC

Sent from Windows Mail

49052. 5203se not tuning up when in TUNE or CW modes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-17 14:24:06 UTC
From: jon_g4fut@...
Topic: 49052 Message: 49052

I have several Kenwood hybrids and lately my 520se which has been working well can now only transmit miliwats. I have checked this in CW on an adjacent RX when I plugged in the morse key. I have replaced the 3 tubes and they display the usual 60ma bias OK. but no RF output HT is 900V, and the calibrator give a S2 only signal on the meter. This problem started when I removed the CW filter as it was duff and wanted to replace it with a known good one. All switches , e.g. SG on the rear are as they should be, although I had to replace the 2A 12V fuse as it had blown. I can get no reading when in TUNE and the other RX shows no received signal. I have the service manual and have done the usual "trouble-shooting".

Grid Voltage Test
With SG switch OFF the DC voltage pin 5 of PA tube socket is 100 V on receive and 80 volts on transmit when in CW mode.
In SSB mode the voltages are;- 100 on receive and 85 on transmit.

PS. I use a 'scope to tune up the TX as well as a dummy load.

Any ideas would be most welcome.
Regards
Jon G4FUT

49053. Re: [TS-520_820_530_830] 5203se not tuning up when in TUNE ir CW modes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-17 14:32:35 UTC
From: Mike W5RKL
Topic: 49053 Message: 49053

Basic on what you have said, it sounds to me like you created a short in the 14VDC supply that flows through the MODE switch S3-8 and the Narrow/Wide switch S10 and is present on the IF Unit "SSB/CW" terminals. A short such as this will cause the 2 amp fuse to blow. If the 2 amp fuse blows then there will be loss of 14VDC from the Rectifier Unit (relays will not energize with either the SEND or PTT switches) which result in loss of +9VDC and +3.3VDC which supplies the LV for the solid state circuits including the VFO. This ultimately will result in loss of both receive and transmit. You can easily see this by studying the TS-520SE schematic.

I recommend you thoroughly inspect the IF Unit board around the filter area for possible solder shorts and broken leads to the filter select diodes and/or other components that could have occurred during filter removal.

I had a similar issue when fixing a bad TS-520S CW filter installation for a fellow ham, one lead of the filter select diode was broken but not enough to have initially noticed it. I found it by poking around with a plastic stick.

73
Mike W5RKL
On 6/17/2014 9:15 AM, jon_g4fut@... [TS-520_820_530_830] wrote:
>
> I have several Kenwood hydrids and lately my *520se *which has been
> working well can now only transmit milliwatts. I have checked this in
> CW on an adjacent RX when I plugged in the morse key. I have replaced
> the 3 tubes and they display the usual 60ma bias OK. but no RF output
> *HT is 900V*, and the calibrator give a S2 only signal on the meter.
> This problem started when I removed the CW filter as it was duff and
> wanted to replace it with a known good one. All switches , e.g. SG on
> the rear are as they should be, although I had to replace the 2A 12V
> fuse as it had blown. I can get no reading when in *TUNE *and the
> other RX shows no received signal. I have the service manual and have
> done the usual "trouble-shooting".
>
> *Grid Voltage Test
> *With SG switch OFF the DC voltage pin 5 of PA tube socket is *100 V*
> on receive and *80* volts on transmit when in CW mode.
> In SSB mode the voltages are;- *100* on receive and *85* on trasnmit.
>
> /PS. I use a 'scope to tune up the TX as well as a dummy load./
>

> Any ideas would be most welcome.
> Regards
> Jon G4FUT
>
>
>

49054. Re: [TS-520_820_530_830] 5203se not tuning up when in TUNE ir CW modes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-17 14:36:33 UTC
From: jon_g4fut@...
Topic: 49053 Message: 49054

Thanks Mike, I saw the the filter board had some "dodgy" looking connections. I'll get the magnifying glass out and give it a thorough going over.
Regards
Jon G4FUT

49055. Re: [TS-520_820_530_830] 5203se not tuning up when in TUNE ir CW modes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-17 14:50:28 UTC
From: Mike W5RKL
Topic: 49053 Message: 49055

Jon,

Why are you looking at the SG switch and checking the final amplifier's grid voltage?

You said the 520SE was working fine "until" you remove the CW filter. I believe your words were:

"this problem started when I removed the CW filter..."

so why look at the final amplifier? If the 520SE was working fine "Until" you remove the CW filter then the final amplifier has nothing to do with this problem. You also said both receive and transmit were affected "after" you removed the CW filter so the SG switch would have nothing to do with this problem.

If you have not installed a CW filter back onto the IF Unit board you should also check the CW/SSB filter jumpers, see page 32 in the TS-520SE operator's manual for details, so they are back to where they should be when only a sideband filter is installed.

73
Mike W5RKL

On 6/17/2014 9:15 AM, jon_g4fut@... [TS-520_820_530_830] wrote:
>
> I have several Kenwood hydrids and lately my *520se *which has been
> working well can now only transmit milliwatts. I have checked this in
> CW on an adjacent RX when I plugged in the morse key. I have replaced
> the 3 tubes and they display the usual 60ma bias OK. but no RF output
> *HT is 900V*, and the calibrator give a S2 only signal on the meter.
> This problem started when I removed the CW filter as it was duff and
> wanted to replace it with a known good one. All switches , e.g. SG on
> the rear are as they should be, although I had to replace the 2A 12V
> fuse as it had blown. I can get no reading when in *TUNE *and the
> other RX shows no received signal. I have the service manual and have
> done the usual "trouble-shooting".
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> *Grid Voltage Test
> *With SG switch OFF the DC voltage pin 5 of PA tube socket is *100 V*
> on receive and *80* volts on transmit when in CW mode.
> In SSB mode the voltages are;- *100* on receive and *85* on trasnmit.
>
> /PS. I use a 'scope to tune up the TX as well as a dummy load./
>

> Any ideas would be most welcome.
> Regards
> Jon G4FUT
>
>
>

49056. Re: [TS-520_820_530_830] 5203se not tuning up when in TUNE ir CW modes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-17 16:26:59 UTC
From: jon_g4fut@...
Topic: 49053 Message: 49056

Mike, I switched off the SG for safety which checking the tubes voltage. I replaced the SSB wire from the CW terminal when I took out the CW filter. To test the PA, I of course switched the SG back on. And following your earlier suggestion I have studied the service manual for the TS-520se downloaded from BAMA. To check the connections etc. I loosened the IF board (which houses the CW and SSB filters) this is X48-1060-01 and it connects with board X54-1080-10. I have found the IF board circuit diagram in the Manuals schematic but not that of X54-1080-10 ! There is a lead marked (OUT) on the rigs X54-1080-10 board which goes to the IF via a small coax but the inner and outer of this coax show a short circuit when I check it with a meter on the IF board as the outer of the coax is earthed. This cannot be right. The other connections on the IF board are all OK. Can any good person put me in touch with a schematic for a TS-520se where it has a X54-1080-10. On the actual rig, this board is vertical on the same side as the BIAS, VOX, etc adjusters.
I don't think I have missed it on my schematic....but probably been looking too hard and it's there all the time.
Regards
Jon G4FUT

49057. RE: [TS-520_820_530_830] Re: HAZARD AWARENESS

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-17 16:43:45 UTC
From: Brad Allen
Topic: 49048 Message: 49057

How about a piece of heat shrink? The clue to if the case is hot or not is if it is in an insulated mount from the chassis.

From: TS-520_820_530_830@yahoogroups.com
[mailto:TS-520_820_530_830@yahoogroups.com]
Sent: Tuesday, June 17, 2014 12:46 AM
To: TS-520_820_530_830@yahoogroups.com
Subject: [TS-520_820_530_830] Re: HAZARD AWARENESS

I am glad that Terry brought this hazard to everyone's attention. I have those Nichicon aluminum caps installed in my 530S and accidentally touched the aluminum top of the first one in series and got a real scare. Measurement with my DVM from the top of the cap to ground gave something like 375 volts! Since then I have cut a piece of yellow self-adhesive insulating tape into a round circle that just covers the aluminum surface.

Scott, N6CIC

Sent from Windows Mail

49058. Re: [TS-520_820_530_830] 5203se not tuning up when in TUNE ir CW modes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-18 22:16:07 UTC
From: jon_g4fut@...
Topic: 49053 Message: 49058

Keith G0TSH,
Many thanks for the schematic. I must have an earlier copy which doesn't have that board.
73s
Jon

49059. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-20 13:42:49 UTC
From: leonardmiller579@...
Topic: 48679 Message: 49059

Terry, I've been pretty busy around the house lately. Hopefully I can get back to the bench today. A local ham gave me watt/swr meter that he checked against his bird to make sure that it was reading correctly. I hooked it up last night, and it seems that the radio is indeed putting power out. I'll go back over each band today if I get the lawn mowed :-). I also want to go back over the alignment procedure to make sure that I didn't make any mistakes.

49060. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-20 14:06:04 UTC
From: wagstw46@...
Topic: 48679 Message: 49060

OK

A known good in line wattmeter is a real asset for loading and troubleshooting. RF meter position works fine for loading, but it is relative power. It wont tell you if you have very high VSWR (open) or if tube emission is down.

A wattmeter puts a real number to the RF relative power meter position.

With nothing connected to your hybrid the RF meter position will still indicate because essentially you have the 11k ohm rf voltage divider resistors in shunt with your Plate Loading capacitor serving as a load and there will be rf voltage IR drop across them. Can fool you into thinking you have RF output power. So the wattmeter shows you actually have RF output to the connected dummy load or antenna system and how much the power level is. Should see approx 100 watts at approx 200ma to 225ma of plate current into 50 ohm resistive load. Depending on the model and rig less on 10 meters (80 to 85 watts).

Terry K9TW

49061. TS820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-20 16:51:51 UTC
From: wheelman134@yahoo.com
Topic: 1705 Message: 49061

I have a Kenwood ts820s that seems to be operating properly but when I put a meter on the coax pigtail from the radio it shows a dead short. If I check the connector directly at the back of the radio I still get the same reading. This does not seem correct to me. Any suggestions.
Alan KG5AWD

49062. Re: [TS-520_820_530_830] TS820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-20 17:08:35 UTC
From: Mike W5RKL
Topic: 1705 Message: 49062

Alan,

The reason your ohm meter is displaying a short across the SO-239 and coax pig tale is the RF choke, L4, is connected between the antenna center conductor SO-239 and ground. This is NORMAL and should NOT be considered a problem.

Do you have the TS-820 operator's and service manuals? If not then I recommend you download them and studying the schematic. You can download them from my website

www.w5rkl.com

73
Mike W5RKL

On 6/20/2014 11:51 AM, 'wheelman134@...' wheelman134@...
[TS-520_820_530_830] wrote:
> I have a Kenwood ts820s that seems to be operating properly but when I
> put a meter on the coax pigtail from the radio it shows a dead short.
> If I check the connector directly at the back of the radio I still get
> the same reading. This does not seem correct to me. Any suggestions.
> Alan KG5AWD
>

49063. Re: 520S with just 4 w out on 160/80, but --130 w-- on TEN????

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-20 20:17:14 UTC
From: paul.nussbaum@...
Topic: 48679 Message: 49063

Not sure about the 520S, but on the 820S the alignment starts with 160m and the service manual procedure includes adjusting IF board T10 and RF board T1 along with the 160m TX coil.

I went through a trouble shooting period where ALC indication disappeared during alignment and subsequently could not finish alignment, could not get an ALC drive peak when tuning, and could not get more than a few watts tuning in CW mode.

Since initiation of ALC indication is dependent on exceeding a sufficient RF drive level, I measured RF drive with my VTVM at the finals board DRV terminal (blue wire entering at the corner) and used that as a substitute for ALC during alignment of 160m TX. Switching the meter to ALC after finding the RF drive peak on the VTVM showed that ALC indication was restored.

This recovery occurred when I found that RF T1 was off.

The low band alignment is done first because it sets up the influence on the upper band alignments...

I'm wondering, is it possible that your low band is misaligned, but your high bands are also misaligned so that they actually have power while the low band does not?
It is not clear if you attempted the alignment or not... VFO in your video is set to where you would if you did... ?

Paul
AD5FT

49064. TS820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-20 18:26:45 UTC
From: wheelman134@yahoo.com
Topic: 1705 Message: 49064

Mike, thank you. I do have the manuals but missed that part. Thought maybe had a major malfunction. Thanks so much for the quick response. Will get it loaded up and on the air this evening.

Alan KG5AWD

49065. My TS-830 is Always 1Hhz off

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-21 02:33:13 UTC
From: Kevin, Natalia, Stacey and Rochelle
Topic: 49065 Message: 49065

Hi Guys,

I am in need of some advise.

My TS-830, from the day I purchased some 14 years ago has always had to be tuned 1Khz lower than the actual freq. So if a station is on 14.200, I have to tune the dial readout for 14.199Mhz.

I tested this using my TS-480 and a couple of other rigs I could get my hands on over this time.

I don't have a freq generator, so cannot test it that way.

I have zero beat it to WWV on 10Mhz, and confirmed the 1Khz off.

There must be a trimmer in there so I can adjust it and bring it back on to the correct readout?

Regards

Kevin, ZL1KFM.

49066. RE: [TS-520_820_530_830] My TS-830 is Always 1Hhz off

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-21 02:52:58 UTC
From: fpath fpath
Topic: 49065 Message: 49066

Kevin,

Ther is a section in your user manual that will allow you to under take the digital display conversion.

Connect the antenna and set band to recieve 10MHz WWV and adjust vfo until a low frequency beat is heard. Turn 25KHz calibration marker on. A two beat signal will be heard (double beat) both high and low.

Adjust the IF shift for low AF response

While receiving double beat, using an insulated tool, adjust the standard oscilator trimmer through the reference adjustment trimmer, on the bottom of the radio, (radio should be on side in service postion), if unsure refer to your user manual for location. Adjust the trimmer until the two beats are heard as one. This should be done 2 - 3 times on a radio that has been switched on for warm up period. Once you have done this 2 -3 time your digital calibration will be completed and should be on frequency.

If you can get hold of a calibrated frequency counter, I would also check the 10MHz reference oscillator on the PLL board.

Any problems report back for further assistance

73s

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: TS-520_820_530_830@yahoogroups.com
Date: Sat, 21 Jun 2014 14:33:13 +1200
Subject: [TS-520_820_530_830] My TS-830 is Always 1Hhz off

Hi Guys,

I am in need of some advise.
My TS-830, from the day I purchased some 14 years ago has always had to be tuned 1Khz lower than the actual freq. So if a station is on 14.200, I have to tune the dial readout for 14.199Mhz.
I tested this using my TS-480 and a couple of other rigs I could get my hands on over this time.
I don’t have a freq generator, so cannot test it that way.
I have zero beat it to WWV on 10Mhz, and confirmed the 1Khz off.

There must be a trimmer in there so I can adjust it and bring it back on to the correct readout?

Regards
Kevin, ZL1KFM.

49067. RE: [TS-520_820_530_830] My TS-830 is Always 1Hhz off

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-21 14:16:06 UTC
From: wagstw46@...
Topic: 49065 Message: 49067

There is another way to to it today.

Back in the day we needed a crystal calibrator and an international time and frequency station such as WWV or CHU but today not so much. Even with WWV it still requires good propagation to use them in order to hear the zero beat and the closer you get to zero beat the lower the audio level and the human ear frequency response rolls off.

If you have trouble with the zero beat method can try using the the SSB switching method by flipping back and forth between LSB and USB until the 600hz tone that is transmitted on alternate minutes sounds like the same frequency. Easier for the ear to differentiate this than true zero beat.

Today with all the modern DSP rigs on the ham bands that are dead on frequency and so many strong Net operations like 14.300 maritime mobile or Midcars 7.258 and Ecars 7.255 you can just simply tune on the Net of choice and tune for a natural voice and then adjust 10 mhz counter reference trimmer cap TC-1 until the digital display reads same as the Net frequency. Can get very close this way. Of course this assumes that your VFO has been calibrated to track at 50 and 450.

Lastly, if you have a close friend whose natural voice you are familiar with and he has an unmolested modern rig you could also have a QSO and adjust the trimmer on his transmission.

I am assuming there must be some popular strong copy Nets in New Zealand that could be used. If not, then as Dave suggests you will need to use WWV or a calibrated frequency counter.

Terry K9TW

49068. Hi from new member

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-21 01:30:39 UTC
From: Ken Kaplan
Topic: 49068 Message: 49068

Just a quick hi. I just picked up a TS-830S and it's deaf. I can hear a little faint hiss from the speaker if the RF & AF gains are at max. I found a copy of the service manual and survival guide (among other stuff) & will be digging into it when I can. Gotta say it's a nice looking radio. From what I've read, it's a real performer. Other than the 830, all my stuff is older Heathkit things like an SB-102, HX-10, RX-1 as well as a Hammarlund HQ-170,180 & 215. I'm really anxious to get the 830 working. I'm building an engine for my Mustang now so the shop is kinda crowded. Soon... Real soon <fingers crossed>.

73 Ken Kaplan
KB7RGG
www.nostalgickitscentral.com
www.qsl.net/kb7rgg/radio/index.html

49069. IT'S ALIVE AFTER 40 YEARS

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-21 03:04:01 UTC
From: beeson.neil@...
Topic: 49069 Message: 49069

I went and picked up my TS520SE yesterday from my mates place, 244klm away, and couldn't help myself. This morning I plugged her in, let it warm up then folowed Alans video and tuned her up. Remembering I'm new to these radios so I followed the video to the letter and it tuned up to perfection(165 watts into dummy load) and had to turn it down to 100 watts(all I'm allowed). I later spoke to my mate and got a rock solid report, one other station said it's the best he's heard me on air. During the 30 minute QSO I never had to touch the VFO it stayed solid on freq. This radio until 1 month ago had never been plugged in until my mates variac. I really love these old valve radios
73
Neil
VK6NSB

49070. Re: TS-520 Power Out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-21 22:45:31 UTC
From: chastizer4@...
Topic: 48796 Message: 49070

You guys are all to blame! I am now the proud owner of a TS-830S. I promise to continue my mission on the TS-520 woes, but I just had to tell somebody. Charlie - AC6ZX

49071. Re: IT'S ALIVE AFTER 40 YEARS

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-22 11:37:35 UTC
From: w5rkl@...
Topic: 49069 Message: 49071

165 watts into a dummy load with a TS-520SE? Not possible!! The TS-520SE final amplifier (Final Unit) and power supply (Rectifier Unit) are not designed to nor can it provide the necessary voltage and current demands to produce that much output power.

It would be interesting to know what the "IP" meter and the "HV" meter indications were with 165 watts into your dummy load and watt meter???? I would check your dummy load and watt meter because, as I said above, the TS-520SE is not designed to produce 165 watts output.

73
Mike W5RKL

49072. Re: IT'S ALIVE AFTER 40 YEARS

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-22 12:44:57 UTC
From: wagstw46@...
Topic: 49069 Message: 49072

Neil:

Even if the rig has been QROd and there is 300vdc applied to the Screen Grids about most I have ever seen is 140 to 145 watts output @ 300ma. This is very hard on the radio. Hard on tubes, hard on the power transformer, hard on the RF Plate choke.

You could do a visual in the PA cage to see if the RF Plate choke is burned/discolored and of course could measure the Screen grid voltage at the 6146 tube sockets and at the 12BY7A Driver tube socket.

I am a little reluctant to tell you to do these things as I would seem you are relatively new and there are lethal voltages inside the radio.

Lets just hope rig has not been hot-rodded and that your wattmeter is not accurate .

One thing with Allens video he forgets to have you go back and check Ip (plate current) after he loads to maximum Relative Power (RF position of the meter). That is a must to ensure not exceeding much more than 200ma on a TS520.

Terry K9TW

49073. Re: [TS-520_820_530_830] Hi from new member

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-22 17:17:11 UTC
From: Tom Maier
Topic: 49068 Message: 49073

Check to make sure that either the Remote VFO is plugged in OR that the Dummy plug is plugged in. This bug bit me a couple of weeks ago on a rig I got at a Hamfest. Once I knew to look for it, I discovered that the dummy plug was missing. It turns out that pins 8 and 9 have to be shorted for the internal VFO (an a couple of misc LED) to get their power.

The seller didn't include the plug and I didn't have a replacement. I just opened the hood and soldered a jumper in. If you are timid, as was I, use a clip-lead to prove to yourself that the missing jumper is the problem and then solder the jumper.

The rig works great now.

Tom K3WFN

this post edited as it contained already posted material-73 Joe wb7uqu

49074. Re: [TS-520_820_530_830] Re: IT'S ALIVE AFTER 40 YEARS

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-22 21:04:49 UTC
From: Joseph Stiles
Topic: 49069 Message: 49074

Neil,

It's great it works after all this time.

I agree with both Terry-k9tw & Mike-w5rkl. First, I doubt the accuracy of the watt meter you are using. You can do some simple math: P(power) = E(voltage) x I(current). The "E" value and the "I" value can be obtained from your front panel meter...this will give you INPUT power to the final amplifier tube(s)..and figuring an efficiency rating of...say a nice round 50%(slightly more really)...you can do the math to figure the "output" If I remember, the 520 series is rated at 200W PEP(SSB) and 160W DC INPUT. So, say you have a full 160 W INPUT, and a final amplifier efficiency rating of 60%...you end up with about 96W OUTPUT..which is right on target as far as output goes...you may get slightly higher output on the lower frequency bands...and slightly lower on the uppermost ones. Hope that previous owner did not "QRO MODIFY" it...that's just wrong...as the power transformer, final amplifier tubs, plate choke..and other things you don't want to destroy...will get damaged.

Good luck, keep us posted...ask questions if needed

73 Joe
WB7UQU

On Sunday, June 22, 2014 5:45 AM, "wagstw46@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
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>Neil:
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>Even if the rig has been QROd and there is 300vdc applied to the Screen Grids about most I have ever seen is 140 to 145 watts output @ 300ma. This is very hard on the radio. Hard on tubes, hard on the power transformer, hard on the RF Plate choke.
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>You could do a visual in the PA cage to see if the RF Plate choke is burned/discolored and of course could measure the Screen grid voltage at the 6146 tube sockets and at the 12BY7A Driver tube socket.
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>
>
>Lets just hope rig has not been hot-rodded and that your wattmeter is not accurate .

>
>
>One thing with Allens video he forgets to have you go back and check Ip (plate current) after he loads to maximum Relative Power (RF position of the meter). That is a must to ensure not exceeding much more than 200ma on a TS520.
>
>
>Terry K9TW
>
>
>

49075. Re: [TS-520_820_530_830] Hi from new member

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-22 21:15:00 UTC
From: Joseph Stiles
Topic: 49068 Message: 49075

Ken,

The 830 series does not have the same VFO plug that the 520 & 820 series do and thus, does not need a "jumper" as previously described. Many faults can happen to cause your problem. Do you know the history of this rig? Prior owner may have got a lightening hit..inadvertently transmitted INTO the rear antenna connector..part of your voltage supply on the rectifier board could be missing...and on and on. See if you can hear anything from the remote speaker jack on the back. Good luck luck on your engine rebuild. When time permits...let us know more..especially your ability and equipment available.

73 Joe
WB7UQU

On Sunday, June 22, 2014 1:43 PM, "Tom Maier carvintom@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Check to make sure that either the Remote VFO is plugged in OR that the Dummy plug is plugged in. This bug bit me a couple of weeks ago on a rig I got at a Hamfest. Once I knew to look for it, I discovered that the dummy plug was missing. It turns out that pins 8 and 9 have to be shorted for the internal VFO (an a couple of misc LED) to get their power.
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>
>
>The rig works great now.
>
>
>Tom K3WFN
>
>
>
>this post edited as it contained already posted material-73 Joe wb7uqu
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>

49076. Re: [TS-520_820_530_830] My TS-830 is Always 1Hhz off

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-22 21:28:56 UTC
From: Joseph Stiles
Topic: 49065 Message: 49076

Kevin,

Do you have, or can you borrow a frequency counter? If so, check the VFO adjustment on Pg 34 of the Service Manual. This is what Terry-k9tw was talking about...the 50 and 450 tracking. These "adjustments" are made through the TOP of the VFO under the silver tape. See Pg 42 of Service Manual for location. It makes it easier if you remove the 4 "allen or hex" screws holding the VFO in and slowly & GENTLY remove it...There is usually enough slack in the connections to get full access...just be careful when putting it back in...no pinched wires!

73 Joe
WB7UQU

On Saturday, June 21, 2014 7:16 AM, "wagstw46@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>There is another way to to it today.
>
>
>Back in the day we needed a crystal calibrator and an international time and frequency station such as WWV or CHU but today not so much. Even with WWV it still requires good propagation to use them in order to hear the zero beat and the closer you get to zero beat the lower the audio level and the human ear frequency response rolls off.
>
>
>If you have trouble with the zero beat method can try using the the SSB switching method by flipping back and forth between LSB and USB until the 600hz tone that is transmitted on alternate minutes sounds like the same frequency. Easier for the ear to differentiate this than true zero beat.
>
>Today with all the modern DSP rigs on the ham bands that are dead on frequency and so many strong Net operations like 14.300 maritime mobile or Midcars 7.258 and Ecars 7.255 you can just simply tune on the Net of choice and tune for a natural voice and then adjust 10 mhz counter reference trimmer cap TC-1 until the digital display reads same as the Net frequency. Can get very close this way. Of course this assumes that your VFO has been calibrated to track at 50 and 450.
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>
>Lastly, if you have a close friend whose natural voice you are familiar with and he has an unmolested modern rig you could also have a QSO and adjust the trimmer on his transmission.

>
>

>I am assuming there must be some popular strong copy Nets in New Zealand that could be used. If not, then as Dave suggests you will need to use WWV or a calibrated frequency counter.
>
>
>Terry K9TW
>
>
>

49077. Running a TS-820 QRP (~15-20W)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-22 23:15:12 UTC
From: ryan@...
Topic: 49077 Message: 49077

Hi all,

I am a relatively new ham and have just gotten my first radio, a clean TS-820. I am in a very strict townhouse situation and am trying to figure out the best way to get on the air. I was thinking about an Alexloop that I could setup and take down as needed but their maximum power is about 25W. I was wondering what steps I would need to take to limit and monitor the output power. I know this is probably a silly newbie question but I want to make sure that I don't harm the antenna or radio.

Thanks,

Ryan - W3RMD

49078. Re: [TS-520_820_530_830] Running a TS-820 QRP (~15-20W)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-23 01:13:11 UTC
From: John Davidson
Topic: 49077 Message: 49078

300 bucks for a short piece of wire and a few spreaders and a LOW power tuning box,
 some one is getting rich with this ???
Just hide some wire around your roof and do a lot better !!! turning down your power on CW is easy but not so easy on SSB mode on a 520 etc. Turning down youl power with a stealth mini antenna is not going to get many QSOs ! .

On Sunday, June 22, 2014 8:19 PM, "ryan@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Hi all,

I am a relatively new ham and have just gotten my first radio, a clean TS-820. I am in a very strict townhouse situation and am trying to figure out the best way to get on the air. I was thinking about an Alexloop that I could setup and take down as needed but their maximum power is about 25W. I was wondering what steps I would need to take to limit and monitor the output power. I know this is probably a silly newbie question but I want to make sure that I don't harm the antenna or radio.

Thanks,

Ryan - W3RMD

49079. Re: [TS-520_820_530_830] Running a TS-820 QRP (~15-20W)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-23 02:39:36 UTC
From: Jeff AC0C
Topic: 49077 Message: 49079

I second John’s comments. A loop is a very inefficient radiator; more suited for a receive antenna on the low bands than a general purpose transmit + receive antenna. The transworld backpacker is about the same price, will take the 100W from the 820, and will work better (IMHO) than the loop for the bands where the action is (20m) for the limited space challenge. And it will sit on your patio not giving anyone in the neighboorhood any heartburn.

73/jeff/ac0c
www.ac0c.com
alpha-charlie-zero-charlie

From: mailto:TS-520_820_530_830@yahoogroups.com
Sent: Sunday, June 22, 2014 8:13 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830] Running a TS-820 QRP (~15-20W)

300 bucks for a short piece of wire and a few spreaders and a LOW power tuning box,
some one is getting rich with this ???
Just hide some wire around your roof and do a lot better !!! turning down your power on CW is easy but not so easy on SSB mode on a 520 etc. Turning down youl power with a stealth mini antenna is not going to get many QSOs ! .

On Sunday, June 22, 2014 8:19 PM, "ryan@... [TS-520_820_530_830]"
<TS-520_820_530_830@yahoogroups.com> wrote:

Hi all,

I am a relatively new ham and have just gotten my first radio, a clean TS-820. I am in a very strict townhouse situation and am trying to figure out the best way to get on the air. I was thinking about an Alexloop that I could setup and take down as needed but their maximum power is about 25W. I was wondering what steps I would need to take to limit and monitor the output power. I know this is probably a silly newbie question but I want to make sure that I don't harm the antenna or radio.

Thanks,

Ryan - W3RMD

49080. Re: [TS-520_820_530_830] Hi from new member

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-23 02:46:36 UTC
From: w5rkl@...
Topic: 49068 Message: 49080

The TS-830 does not have a requirement for a remote VFO socket jumper plug.

The only Kenwood hybrids that require the jumper plug when the remote VFO is not used are the TS-520 (all 3 models) and the TS-820 (both series) transceivers.

The TS-830 remote VFO socket is an 8 pin DIN with an embedded switch, identified on the TS-830 schematic as S21. S21 controls the application of the VFO's "B+" which is +9VDC. If this switch is stuck "Open" due to dirt etc then the internal VFO will not have any B+ and the digital display will be "dark" resulting in loss of both transmit and receive.

If the digital display is dark, try giving the remote VFO S21 switch a shot of contact cleaner then insert a few time, a 8 pin DIN plug, follow the cleaning process with generous amounts of canned air to remove any/all dirt and contact cleaner residue from the DIN socket and test for operation.

73
Mike W5RKL

49081. Re: [TS-520_820_530_830] Running a TS-820 QRP (~15-20W)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-23 04:41:27 UTC
From: Gregory Graham
Topic: 49077 Message: 49081

Ryan
I lived in a condo and put up a wire dipole on 15 and 20 meters stapled to the top of the patio cover and worked great DX with my TS-820 at around a 100 watts. Another time I lived in a second floor apartment and put up a 20 meter wire dipole, thumb tacked at the top of the wall next to the ceiling. I used RG-8X, a balan and a BNC connector to bring the coax to the TS-820 mounted in a linen closet. Worked great for a few thousand miles. I just tuned the antennas for the phone part of the band and they worked great. No tuner required and no complaints.

Gregory
NR6C

On 6/22/2014 6:13 PM, John Davidson k8jd@... [TS-520_820_530_830] wrote:
> 300 bucks for a short piece of wire and a few spreaders and a LOW
> power tuning box,
> some one is getting rich with this ???
> Just hide some wire around your roof and do a lot better !!! turning
> down your power on CW is easy but not so easy on SSB mode on a 520
> etc. Turning down youl power with a stealth mini antenna is not going
> to get many QSOs ! .
>
>
> On Sunday, June 22, 2014 8:19 PM, "ryan@...
> [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:
>
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> Hi all,
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> I am a relatively new ham and have just gotten my first radio, a clean
> TS-820. I am in a very strict townhouse situation and am trying to
> figure out the best way to get on the air. I was thinking about an
> Alexloop that I could setup and take down as needed but their maximum
> power is about 25W. I was wondering what steps I would need to take
> to limit and monitor the output power. I know this is probably a silly
> newbie question but I want to make sure that I don't harm the antenna
> or radio.
>
> Thanks,
>
> Ryan - W3RMD
>
>

>

49082. Re: [TS-520_820_530_830] Re: IT'S ALIVE AFTER 40 YEARS

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-23 08:24:58 UTC
From: beeson.neil@...
Topic: 49069 Message: 49082

I've got a used Heathkit HM-102 coming, I'm sure that'll tell me the truth. The radio as I said had never been plugged in, it was purchased then he passed away before he could use it so it's dead stock. It sat at his house in it's box for years before a mate called and asked if I wanted it (as if I would say no). I did the tune up on the dummy load then as my mate(whose got 2 TS520S) said to just check it again when it goes to the antenna. I've used it all weekend and it stayed rock solid on freq and never missed a beat. I checked tune-up a couple of times during the day and everything was sweet and still has that new radio smell. Being new to these radios the cover stays on until somebody who know better comes around, rather be safe than sorry. Anyhow I'll keep you fine people up to date and Thanks again for all your advice.
73
Neil
VK6NSB

49083. Re: [TS-520_820_530_830] Re: IT'S ALIVE AFTER 40 YEARS

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-23 13:58:44 UTC
From: Mike W5RKL
Topic: 49069 Message: 49083

Neil,

Just in case your HM-102 does not come with a copy of the manual I have the HM-102 manual and the QST article that modifies the HM-102 to become a Peak Reading watt meter. Both files are on my website at the following link:

http://w5rkl.com/manuals-and-documents/

Click on the above link and scroll down the page to the Heathkit section and click on the 2 files. The files will download to your computer. Save them to a fold so you have them.

I have an HM-102 and it works very well. Have fun.

73
Mike W5RKL

On 6/23/2014 3:24 AM, beeson.neil@... [TS-520_820_530_830] wrote:
>
> I've got a used Heathkit HM-102 coming, I'm sure that'll tell me the
> truth. The radio as I said had never been plugged in, it was purchased
> then he passed away before he could use it so it's dead stock. It sat
> at his house in it's box for years before a mate called and asked if I
> wanted it (as if I would say no).
>
> I did the tune up on the dummy load then as my mate(whose got 2
> TS520S) said to just check it again when it goes to the antenna. I've
> used it all weekend and it stayed rock solid on freq and never missed
> a beat. I checked tune-up a couple of times during the day and
> everything was sweet and still has that new radio smell. Being new to
> these radios the cover stays on until somebody who know better comes
> around, rather be safe than sorry. Anyhow I'll keep you fine people up
> to date and Thanks again for all your advice.
> 73
> Neil
> VK6NSB
>

49084. Re: [TS-520_820_530_830] Running a TS-820 QRP (~15-20W)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-23 15:00:16 UTC
From: Tom Maier
Topic: 49077 Message: 49084

Ryan,

What, if anything, did you do about grounding? I am in a similar situation and have been trying to decide how to get decent RF ground up to my second floor shack.

Tom K3WFN, trying to get back after >25 years!

this post edited as it contained already posted material. 73 Joe wb7uqu

49085. Re: [TS-520_820_530_830] Running a TS-820 QRP (~15-20W)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-23 16:14:18 UTC
From: Louis Wilen
Topic: 49077 Message: 49085

Here are some choices, based on lots of theory and many years of experience:

-- Use a half-wave antenna, such as a dipole. An RF ground is not needed in this configuration.

-- Use an OCF (off-center fed) antenna. This might fit the geometry of your property better than the half-wave antenna. An RF ground is not needed in this configuration. You will need to use a balun and/or UNUN to isolate the antenna from the feedline. (I use an 80 meter “single band” OCF for 80 meters because it fits my lot better than a dipole.)

-- Use a 1/4 wave antenna, such as a vertical, with a counterpoise. There is no way that you are going to be able to use the earth as your RF ground from a second floor shack. You must use a counterpoise and should try to run it as far from your shack as possible to reduce RF in the shack. Hang it out the window if possible. It is likely that you will have to live with some RF in the shack.

--- Use an end-fed antenna. Again, there is no way that you are going to be able to the earth as your RF ground from a second floor shack. As with the 1/4 wave, you will need to use a counterpoise. You will also need to deal with feeding the high-impedance end, which often requires a rather robust transmatch or large loading coils.

Forget about trying to use the earth as your RF ground.

Louis
W3LMW

From: mailto:TS-520_820_530_830@yahoogroups.com
Sent: Monday, June 23, 2014 11:00 AM
To: TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830] Running a TS-820 QRP (~15-20W)

Ryan,

What, if anything, did you do about grounding? I am in a similar situation and have been trying to decide how to get decent RF ground up to my second floor shack.

Tom K3WFN, trying to get back after >25 years!

this post edited as it contained already posted material. 73 Joe wb7uqu

49086. VFO-230 Diode

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-23 17:00:20 UTC
From: Stephen Gilbert
Topic: 49086 Message: 49086

I am repairing a VFO-230 and have to replace D11, which is not shown on the schematic, but is in the voltage multiplier circuit for the -24v line. This diode marked W110,is short circuit, but can find no information on the web about this diode ratings, what it is or anything I suspect it may be a zener but no proof of this. I have temporarily replaced it with a 1N4007 which has got the display working again, but it is rather bright.

Anyone know what a W110 diode is??? I suspect that the full numbering is not shown like in a lot of Japanese semiconductors.

Stephen, G3OAG

49087. Re: [TS-520_820_530_830] Hi from new member

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-23 18:51:47 UTC
From: Joseph Stiles
Topic: 49068 Message: 49087

Ken,

I agree with Mike-w5rkl, about checking/cleaning the remote VFO socket, listed as S-21. This is a very small micro switch that is part of the socket. Since the rig has not been operated for years and has just been sitting around...this would be a very simple and easy place to start.

73 Joe
WB7UQU

On Sunday, June 22, 2014 7:46 PM, "w5rkl@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>The TS-830 does not have a requirement for a remote VFO socket jumper plug.
>
>The only Kenwood hybrids that require the jumper plug when the remote VFO is not used are the TS-520 (all 3 models) and the TS-820 (both series) transceivers.
>
>The TS-830 remote VFO socket is an 8 pin DIN with an embedded switch, identified on the TS-830 schematic as S21. S21 controls the application of the VFO's "B+" which is +9VDC. If this switch is stuck "Open" due to dirt etc then the internal VFO will not have any B+ and the digital display will be "dark" resulting in loss of both transmit and receive.
>
>If the digital display is dark, try giving the remote VFO S21 switch a shot of contact cleaner then insert a few time, a 8 pin DIN plug, follow the cleaning process with generous amounts of canned air to remove any/all dirt and contact cleaner residue from the DIN socket and test for operation.
>
>73
>Mike W5RKL
>
>
>

49088. Re: [TS-520_820_530_830] VFO-230 Diode

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-23 19:46:34 UTC
From: Ken Winterling
Topic: 49086 Message: 49088

Stephen,

It is a Zener and the part name is WZ-110, part # V11-4161-46. It is on the F2 line (pin 2, connector 3), not the -24 line (pin 3, connector 3). I can see it on the circuit board X-ray views right next to R20 (220 ohms) but it doesn't appear on any schematics I have looked at so far. The same part is used in a couple other rigs but the voltage at that point in the circuit is not marked on any of their diagrams.

I suspect removing that 1N4007 you installed will have no effect as it is, effectively, not in the circuit and the full, unregulated voltage is being supplied to the display tube. I also could not find the voltage for the display tube (9-BT-12, pins 1 & 28) which would have provided a clue. Although the circuit used in the TS-830 is not identical you could measure the voltage used on its display as a guide.

Have you measured the voltage on that line at the point where the diode connects? My son has a VFO-230 but it is two hours away from me and he can't look at it now to take any measurements. Until you get the proper Zener you could experiment by inserting different voltage Zeners (watch the polarity!) until the display brightness approximately matches that of the TS-830.

Good luck and keep us posted!

Ken
WA2LBI

On Mon, Jun 23, 2014 at 1:00 PM, Stephen Gilbert g3oag@...
[TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
> I am repairing a VFO-230 and have to replace D11, which is not shown on
> the schematic, but is in the voltage multiplier circuit for the -24v
> line. This diode marked W110,is short circuit, but can find no
> information on the web about this diode ratings, what it is or anything
> I suspect it may be a zener but no proof of this. I have temporarily
> replaced it with a 1N4007 which has got the display working again, but
> it is rather bright.
>
> Anyone know what a W110 diode is??? I suspect that the full numbering is
> not shown like in a lot of Japanese semiconductors.
>
> Stephen, G3OAG
>
> ----------

> Posted by: Stephen Gilbert <g3oag@...>
>

49089. Re: [TS-520_820_530_830] VFO-230 Diode

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-23 19:58:01 UTC
From: Mike W5RKL
Topic: 49086 Message: 49089

The NTE replacement for the WZ-110 is an NTE-5020A, 11 volt zener.

Check NTE's substitution webpage

http://nte01.nteinc.com/nte/NTExRefSemiProd.nsf/$$Search

and enter

WZ110 in the search box and press RETURN on your keyboard or click the
"SEARCH" command button.

73
Mike W5RKL

On 6/23/2014 2:46 PM, Ken Winterling wa2lbi@...
[TS-520_820_530_830] wrote:
> Stephen,
>
> It is a Zener and the part name is WZ-110, part # V11-4161-46. ? It is
> on the F2 line (pin 2, connector 3), not the -24 line (pin 3,
> connector 3). ? I can see it on the circuit board X-ray views right
> next to R20 (220 ohms) but it doesn't appear on any schematics I have
> looked at so far. ? The same part is used in a couple other rigs but
> the voltage at that point in the circuit is not marked on any of their
> diagrams. ?
>
> I suspect removing that 1N4007 you installed will have no effect as it
> is, effectively, not in the circuit and the full, unregulated voltage
> is being supplied to the display tube. ? I also could not find the
> voltage for the display tube (9-BT-12, pins 1 & 28) which would have
> provided a clue. ? Although the circuit used in the TS-830 is not
> identical you could measure the voltage used on its display as a guide.
>
> Have you measured the voltage on that line at the point where the
> diode connects? ? My son has a VFO-230 but it is two hours away from
> me and he can't look at it now to take any measurements. ? Until you
> get the proper Zener you could experiment by inserting different
> voltage Zeners (watch the polarity!) until the display brightness
> approximately matches that of the TS-830.?
>
> Good luck and keep us posted!
>
> Ken
> WA2LBI
>
>

> On Mon, Jun 23, 2014 at 1:00 PM, Stephen Gilbert
> g3oag@... [TS-520_820_530_830]
> <TS-520_820_530_830@yahoogroups.com
> <mailto:TS-520_820_530_830@yahoogroups.com>> wrote:
>
> ?
>
> I am repairing a VFO-230 and have to replace D11, which is not
> shown on
> the schematic, but is in the voltage multiplier circuit for the -24v
> line. This diode marked W110,is short circuit, but can find no
> information on the web about this diode ratings, what it is or
> anything
> I suspect it may be a zener but no proof of this. I have temporarily
> replaced it with a 1N4007 which has got the display working again,
> but
> it is rather bright.
>
> Anyone know what a W110 diode is??? I suspect that the full
> numbering is
> not shown like in a lot of Japanese semiconductors.
>
> Stephen, G3OAG
>
> ---
> Posted by: Stephen Gilbert <g3oag@...
> <mailto:g3oag@...>>
>
>

49090. Re: [TS-520_820_530_830] VFO-230 Diode

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-23 20:01:15 UTC
From: Mike W5RKL
Topic: 49086 Message: 49090

I forgot to give you the NTE data sheet link

http://www.nteinc.com/specs/5000to5099/pdf/nte5000a.pdf

73
Mike W5RKL

On 6/23/2014 2:58 PM, Mike W5RKL w5rkl@... [TS-520_820_530_830] wrote:
>
> The NTE replacement for the WZ-110 is an NTE-5020A, 11 volt zener.
>
> Check NTE's substitution webpage
>
> http://nte01.nteinc.com/nte/NTExRefSemiProd.nsf/$$Search
>
> and enter
>
> WZ110 in the search box and press RETURN on your keyboard or click the
> "SEARCH" command button.
>
> 73
> Mike W5RKL
>
> On 6/23/2014 2:46 PM, Ken Winterling wa2lbi@...
> [TS-520_820_530_830] wrote:
>> Stephen,
>>
>> It is a Zener and the part name is WZ-110, part # V11-4161-46. ? It
>> is on the F2 line (pin 2, connector 3), not the -24 line (pin 3,
>> connector 3). ? I can see it on the circuit board X-ray views right
>> next to R20 (220 ohms) but it doesn't appear on any schematics I have
>> looked at so far. ? The same part is used in a couple other rigs but
>> the voltage at that point in the circuit is not marked on any of
>> their diagrams. ?
>>
>> I suspect removing that 1N4007 you installed will have no effect as
>> it is, effectively, not in the circuit and the full, unregulated
>> voltage is being supplied to the display tube. ? I also could not
>> find the voltage for the display tube (9-BT-12, pins 1 & 28) which
>> would have provided a clue. ? Although the circuit used in the TS-830
>> is not identical you could measure the voltage used on its display as
>> a guide.
>>
>> Have you measured the voltage on that line at the point where the
>> diode connects? ? My son has a VFO-230 but it is two hours away from
>> me and he can't look at it now to take any measurements. ? Until you

>> get the proper Zener you could experiment by inserting different
>> voltage Zeners (watch the polarity!) until the display brightness
>> approximately matches that of the TS-830.?
>>
>> Good luck and keep us posted!
>>
>> Ken
>> WA2LBI
>>
>>
>> On Mon, Jun 23, 2014 at 1:00 PM, Stephen Gilbert
>> g3oag@... [TS-520_820_530_830]
>> <TS-520_820_530_830@yahoogroups.com
>> <mailto:TS-520_820_530_830@yahoogroups.com>> wrote:
>>
>> ?
>>
>> I am repairing a VFO-230 and have to replace D11, which is not
>> shown on
>> the schematic, but is in the voltage multiplier circuit for the -24v
>> line. This diode marked W110,is short circuit, but can find no
>> information on the web about this diode ratings, what it is or
>> anything
>> I suspect it may be a zener but no proof of this. I have temporarily
>> replaced it with a 1N4007 which has got the display working
>> again, but
>> it is rather bright.
>>
>> Anyone know what a W110 diode is??? I suspect that the full
>> numbering is
>> not shown like in a lot of Japanese semiconductors.
>>
>> Stephen, G3OAG
>>
>> ---
>> Posted by: Stephen Gilbert <g3oag@...
>> <mailto:g3oag@...>>
>>
>
>

49091. VFO-230 diode

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-23 20:18:42 UTC
From: Stephen Gilbert
Topic: 49091 Message: 49091

Thanks for the info on the diode guys. Yes - I agree that the 1N4007 I have put in will have little effect. I did some tests on just the power supply board and noticed that the voltage drops quite a lot from the offload 39v, (it was that high because there was no zener), to around 27 volts with only a small current drain, but there is no details of what the display tube and drivers consume. Anyway, I will replace it with an 11v zener and get it correct.

On mods.dk, there is a corrected circuit of the voltage multiplier, as the original schematic is wrong, and D11 is omitted, and not even listed in the component list.

I have repaired several VFO-230's (I've got three of them) and the power supply soldering in each one is terrible. In each case, components were loose, and in one case R10, a 270 ohm metal film resistor fell out as I turned the board over. I have replaced all the electrolytics in the PSU and by replacing the capacitors in the voltage multiplier circuit, it cured the flickering display. I do not understand why they made the power supply board so small with all that heat from the regulators and the large resistors right next to the capacitors, when there is plenty of space in the case for a bigger board. However, it has worked for around 30 years.....

Thanks again, Steve, G3OAG

49092. TS-830 remote VFO socket

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-23 20:31:54 UTC
From: Stephen Gilbert
Topic: 49092 Message: 49092

Hi guys...as has correctly been said, there is a switch integral with this socket, but I have found that it can become very unreliable. On two of my 830's I drilled a small hole next to the socket and put in a miniature changeover switch, to replace the socket internal switching. If I remove the external VFO, I just flick the switch over. This has got over the problem of the unreliability. The 8 way DIN plug/socket pair are very poor connectors anyway, and often I have to squirt some switch cleaner in to get proper operation of the external VFO. You occasionally get the L900 reading in the external VFO, after doing an A=B split operation, showing that the 500khz is not getting to the VFO.

One of these days I will replace them with something that is gold plated!!

Steve, G3OAG

49093. RE: [TS-520_820_530_830] VFO-230 Diode

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-23 21:38:34 UTC
From: Walter Milton
Topic: 49086 Message: 49093

Stephen,

If the D11 you are looking for is located on the Digital U it Board (X54-1570-00). My parts list says it is an 1S1587 Diode. I hope this helps.

Walt, KA2NJF

From: TS-520_820_530_830@yahoogroups.com
[mailto:TS-520_820_530_830@yahoogroups.com]
Sent: Monday, June 23, 2014 1:00 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: [TS-520_820_530_830] VFO-230 Diode

I am repairing a VFO-230 and have to replace D11, which is not shown on the schematic, but is in the voltage multiplier circuit for the -24v line. This diode marked W110,is short circuit, but can find no information on the web about this diode ratings, what it is or anything I suspect it may be a zener but no proof of this. I have temporarily replaced it with a 1N4007 which has got the display working again, but it is rather bright.

Anyone know what a W110 diode is??? I suspect that the full numbering is not shown like in a lot of Japanese semiconductors.

Stephen, G3OAG

49094. Re: [TS-520_820_530_830] VFO-230 Diode

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-24 00:04:22 UTC
From: wagstw46@...
Topic: 49086 Message: 49094

Ken:

The TS-830 uses "high" frequency ac (approx 220hz) to supply the filaments (as opposed to 60hz) and it runs around 4.0vac. If you read it with a DMM depending on the DMM AC frequency response you may read approx 0.75vac. A typical VTVM on AC range will usually read it close to 4.0 vac which is more accurate.

The filaments are directly heated so they are the cathode of the VFD tube (operates a lot like a triode tube).

I suspect the zener you are discussing is the one used to set the filament cut off bias? This zener sets a DC offset to swing the AC filament voltage around above ground. Has to do with preventing unwanted illumination.

I dont have any notes on the VFO-230 heater supply. As I recall it uses a step down transformer which is different than the TS830 T-supply oscillator, but been long time since I have worked on one.

Terry K9TW

49095. Re: [TS-520_820_530_830] VFO-230 Diode

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-24 01:12:44 UTC
From: Ken Winterling
Topic: 49086 Message: 49095

Terry,

Thanks for your input. I was working from a pieced-together schematic on my small tablet but it sure looks like one of the secondary windings of the power transformer is connected directly to the two filament terminals of the display tube. That would make it 60Hz. I thought the high frequency was generated in the DC-DC inverter that generated high voltage for the display tube.

Regardless, I need to work with a bigger road map since the power supply parts and display are on opposite sides of the diagram and on different pages. It is difficult to scroll back/forth and up/down and keep track of the circuit.

I don't have a VFO-230 handy to make any measurements and no notes on the ones I have repaired cover the display or this diode. The ones I have fixed did not have display or display power supply issues and none had a failure of this particular zener.

Now he has me curious. I'll have to dig out the large schematic and see how this works.

On Monday, June 23, 2014, wagstw46@... [TS-520_820_530_830] <
TS-520_820_530_830@yahoogroups.com> wrote:

>
>
> Ken:
>
> The TS-830 uses "high" frequency ac (approx 220hz) to supply the filaments
> (as opposed to 60hz) and it runs around 4.0vac. If you read it with a DMM
> depending on the DMM AC frequency response you may read approx 0.75vac. A
> typical VTVM on AC range will usually read it close to 4.0 vac which is
> more accurate.
>
> The filaments are directly heated so they are the cathode of the VFD tube
> (operates a lot like a triode tube).
>
> I suspect the zener you are discussing is the one used to set the filament
> cut off bias? This zener sets a DC offset to swing the AC filament voltage
> around above ground. Has to do with preventing unwanted illumination.
>
> I dont have any notes on the VFO-230 heater supply. As I recall it uses a
> step down transformer which is different than the TS830 T-supply
> oscillator, but been long time since I have worked on one.
>

> Terry K9TW
>
> _
>

--

Ken
WA2LBI
Sent from one of my mobiles

49096. Re: [TS-520_820_530_830] Hi from new member

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-24 03:51:53 UTC
From: Ken Kaplan
Topic: 49068 Message: 49096

Wow, the solution to the deaf receiver problem turned out to be quite simple. The little coax cable that goes to the connector labeled VFO on the RF board was disconnected. Duh. With a 3 foot test lead for an antenna, I already heard WWV and some QSO's on 40 meters. I haven't hit the filament switch yet. Think I'll wait until I can get a proper antenna connected (or a dummy load). I checked the ESR on the two large caps and got 0.14 ohms so I think they are ok. This is a nice looking rig. The display is bright and the accuracy seems fine. I don't know how it compares to other rigs but I have a nice R-390A to check against. I have a D-104 and/or an EV 638 mic waiting to be connected as soon as I find a 4 pin plug.

I appreciate all your suggestions. I've noticed a couple of solder jobs that don't look factory so I may not be done yet. I'll definitely check the remote VFO socket.

73 Ken
KB7RGG

49097. Re: [TS-520_820_530_830] Hi from new member

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-24 04:41:58 UTC
From: Wes Will
Topic: 49068 Message: 49097

On 06/23/2014 10:51 PM, Ken Kaplan krkaplan@... [TS-520_820_530_830] wrote:
>
> I appreciate all your suggestions. I've noticed a couple of solder jobs
> that don't look factory so I may not be done yet. I'll definitely check
> the remote VFO socket.
>
> 73 Ken
> KB7RGG

Also check the displayed freq on the 10-meter switch settings to make sure they are not modified for CB. That's how I found out there had been a chicken-band hack done to my rig. The wrong freq was displayed, and it required replacing the crystals with the correct ones. Not such a difficult task, but a touch pricey for the crystals and still quite annoying that it had to be done in the first place for a rig sold to me as "in perfect shape." I have YET to make a QSO on it, since I've not had the time to re-align and get it back within specs after replacing the crystals.

Was sort of hoping to get to it today, but had to take the wife to the hospital after she fell. Passed out, dropped like a sack of rocks right onto the sidewalk, cracked her elbow bone, and got a mild concussion. They're keeping her overnight for observation...

Maybe TOMORROW I can sit at the bench for a couple of hours and run through the manual routine for checking the alignment and calibrating this poor thing,

Maybe. And maybe pigs will fly by while I'm doing it, what with my luck. Oh well. C'est la vie.

--
Wes Will
N9KDY

49098. Re: [TS-520_820_530_830] VFO-230 Diode

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-24 13:05:55 UTC
From: wagstw46@...
Topic: 49086 Message: 49098

That is what I was trying to tell you. However, I did have a typo slip in. Should have been 22khz and not 220hz. The TS830 display filament is AC pulsed fed at 22khz so that is why you will get a funky reading if you use typical DMM to read filament supply voltage.

The TS830 supplies the filaments off the dc to ac inverter (T-powered oscillator) transformer and the frequency is approx 22khz square wave at approx 11.0vac P-P or approx 4.0vac rms. Best to look at filaments with an O-scope.

Also, there is no real "high" voltage supplied to the display tube anodes or grids. Grids run around -17vdc to -18vdc and anodes run from approx +12vdc to +20vdc.

If the zener diode you are talking about is the filament "cut off bias" zener then if wrong value is installed could have some background illumination (ghosting) when segment anodes and grids are not being addressed. You want to keep the filament/cathode raised or floating sufficiently above ground so the proper zener voltage is important. So experimenting with different value zener diodes you would have to know what to look for. If this is the diode that he found bad I would stick with the NTE 5020A zener that Mike suggested or any 11.0vdc zener sub. Kind of unusual for it to fail.

As I mentioned I dont know for certain how the VFO-230 supplies the VFD display tube filaments. I thought they just used 60hz via line transformer. So point of my first response was that you may not be able to make voltage comparisons between the TS-830 for troubleshooting. I may be wrong about that. I should have found a good copy of the VFO-230 schematic and studied it to confirm any differences between the two circuits before I made any comments instead of trying to go from memory.

If you want to see something interesting Google on regenerative receiver using a VFD. There are people who have recognized that a VFD is a triode tube and have used it to build regen receivers. Also you can find a You Tube video that shows use of a VFD as an audio amplifier for a crystal radio. Cool stuff!

Terry K9TW

49099. Re: Hi from new member

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-24 13:11:24 UTC
From: rrmvargo@...
Topic: 49068 Message: 49099

Hi Ken,
My 2 million SN 830S checked good for ESR also. But even so, the first of the 2 HV caps lost it's will to live. It did not blow up, tho. So you know, just because the ESR is low, does not mean it/they won't fail in the near term. That was a learning experience for me.
73 - Bob

49100. Re: [TS-520_820_530_830] VFO-230 Diode

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-24 13:58:47 UTC
From: Bob Lazarow
Topic: 49086 Message: 49100

Terry:

Any idea why Kenwood took this rather unusual and interesting filament approach? What is achieved or tried to be achieved vs plain old 6.3 VAC?

Thanks

Bob / WA2JAJ

On 6/24/2014 9:05 AM, wagstw46@... [TS-520_820_530_830] wrote:
>
> That is what I was trying to tell you. However, I did have a typo
> slip in. Should have been 22khz and not 220hz. The TS830 display
> filament is AC pulsed fed at 22khz so that is why you will get a funky
> reading if you use typical DMM to read filament supply voltage.
>
>
> The TS830 supplies the filaments off the dc to ac inverter (T-powered
> oscillator) transformer and the frequency is approx 22khz square wave
> at approx 11.0vac P-P or approx 4.0vac rms. Best to look at filaments
> with an O-scope.
>
> Also, there is no real "high" voltage supplied to the display tube
> anodes or grids. Grids run around -17vdc to -18vdc and anodes run from
> approx +12vdc to +20vdc.
>
> If the zener diode you are talking about is the filament "cut off
> bias" zener then if wrong value is installed could have some
> background illumination (ghosting) when segment anodes and grids are
> not being addressed. You want to keep the filament/cathode raised or
> floating sufficiently above ground so the proper zener voltage is
> important. So experimenting with different value zener diodes you
> would have to know what to look for. If this is the diode that he
> found bad I would stick with the NTE 5020A zener that Mike suggested
> or any 11.0vdc zener sub. Kind of unusual for it to fail.
>
> As I mentioned I dont know for certain how the VFO-230 supplies the
> VFD display tube filaments. I thought they just used 60hz via line
> transformer. So point of my first response was that you may not be
> able to make voltage comparisons between the TS-830 for
> troubleshooting. I may be wrong about that. I should have found a good
> copy of the VFO-230 schematic and studied it to confirm any
> differences between the two circuits before I made any comments
> instead of trying to go from memory.
>
> If you want to see something interesting Google on regenerative

> receiver using a VFD. There are people who have recognized that a VFD
> is a triode tube and have used it to build regen receivers. Also you
> can find a You Tube video that shows use of a VFD as an audio
> amplifier for a crystal radio. Cool stuff!
>
> Terry K9TW
>

49101. Re: [TS-520_820_530_830] VFO-230 Diode

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-24 15:02:14 UTC
From: wagstw46@...
Topic: 49086 Message: 49101

Bob

I am not a VFD display expert.

As I understand it has to do with multiplexing and annoying display flicker. The human eye wants to see a solid display. Mfg/designers pay attention to the relationship between the frequency of the grid refresh rate and the filament/cathode frequency to avoid certain beat notes.

I use to have a good VFD primer that Futaba provided, but cant seem to find it.

Of course DC can also be used for the filaments of VFDs used in portable battery powered devices.

For long life very important to have correct filament voltage level. The filaments are tungsten wires coated with oxide coating just as in our vacuum tubes and too high filament voltage will accelerate evaporation of this coating.

I have had couple of KW hybrids on bench that had dim displays and I first measure the filament voltage from pin to pin (approx 4.0vac) and from pin to ground (approx -12vdc). Remember for proper operation the filament is floated above ground to prevent ghosting thus the need for that zener diode we all keep talking about.

If I find the ac and dc filament voltages to be in spec then couple of options. Can boost the filament voltage a little to see if display gets brighter. If it does then next option would be to try to rejuvenate it. Kind of like the old days of TV CRT rejuventation. Can use bench supply and run higher current thru the filament for short time. Slowly ramp filament voltage up until see the filament wires glow bright red. Hold for 5 seconds or so. I repeat this three times. Cant do this without accepting some risk. Might get a nice normal brite display when done and could burn out the filament. Of course you know the display tubes are no longer available. I have couple of spares for my personal rigs and guard them!

Suspect more info than you needed.

Terry K9TW

49102. Re: Hi from new member

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-24 15:09:38 UTC
From: wagstw46@...
Topic: 49068 Message: 49102

Bob:

I am firmly in your camp. I ESR all the HV caps and the 300/210 caps on all KW hybrid models that come across the bench. I do it more for academic exercise and compare results to what the rupture vents look like. It is interesting. See some vents that are swollen and convex and cracked and maybe white crystalline deposits and still have good ESR. Of course the ones that have puked brown black tarry liquid dont get ESRd!

I always recommend to all owners that they authorize at minimum changing the HV caps due to the collateral damage they can and will cause when they fail. Some decline but most tell me to change them. I have changed them in all of my personal KW hybrids. After 35 years they dont owe me anything. Cheap insurance.

Terry K9TW

49103. Re: [TS-520_820_530_830] Re: IT'S ALIVE AFTER 40 YEARS

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-24 07:48:28 UTC
From: beeson.neil@...
Topic: 49069 Message: 49103

Thanks Mike will do. Neil
VK6NSB

49104. VFO-230 diode replacement

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-24 08:00:34 UTC
From: Stephen Gilbert
Topic: 49104 Message: 49104

Thanks Mike for the NTE5020A data sheet details, but I reckon I can use a standard 11v 500mW Zener as a replacement. Looking at the data sheet makes me think the NTE component is nothing special, and anyway, my usual large component suppliers here in the UK don't seem to list it.

Steve, G3OAG

49105. Re: TS-520 Power Out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-24 08:31:57 UTC
From: chastizer4@...
Topic: 48796 Message: 49105

Guys, the 520 tunes up!!!!!!! Found that the BM wire on the heavy red cable had the center conductor broken off at the MODE switch. Whoo hoo! Thanks so much for all your help!
Charlie - AC6ZX

49106. Re: [TS-520_820_530_830] Re: Hi from new member

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-24 13:50:47 UTC
From: Ken Kaplan
Topic: 49068 Message: 49106

Hi Bob,

Yeah, caps are often the weakest part of electronics components. In my real job, I repair medium to large UPS systems & inverters. When I check caps, I measure value, ESR and leakage. I have a nice old Sprague TO-6A which has found its share of stinkers.I just got this rig 5 days ago so I'm just starting to go thru it. Thanks for the tip.

73 Ken

On 6/24/2014 6:11 AM, rrmvargo@... [TS-520_820_530_830] wrote:
> Hi Ken,
> My 2 million SN 830S checked good for ESR also. But even so, the first
> of the 2 HV caps lost it's will to live. It did not blow up, tho. So
> you know, just because the ESR is low, does not mean it/they won't fail
> in the near term. That was a learning experience for me. 73 - Bob

49107. Re: [TS-520_820_530_830] Re: Hi from new member

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-24 16:34:34 UTC
From: Mike W5RKL
Topic: 49068 Message: 49107

I agree Terry. I think folks should consider the following:

1. Save a few dollars on a repair bill by not replacing the original HV filter caps then hoping any failure in one or both HV caps will cause the fuse to blow and save the transformer and other components

or

2. Spend considerably much more, quite often twice to three times as much, replacing the power transformer with a used transformer ($100 or more) or having the original power transformer rewound ($188 plus shipping both ways by Tripod Transformer Rewinding Service)

Number 1 is a huge risk which can easily lead to item 2.

Just my 2 cents worth.

73
Mike W5RKL

On 6/24/2014 10:09 AM, wagstw46@... [TS-520_820_530_830] wrote:
>
> Bob:
>
>
> I am firmly in your camp. I ESR all the HV caps and the 300/210 caps
> on all KW hybrid models that come across the bench. I do it more for
> academic exercise and compare results to what the rupture vents look
> like. It is interesting. See some vents that are swollen and convex
> and cracked and maybe white crystalline deposits and still have good
> ESR. Of course the ones that have puked brown black tarry liquid dont
> get ESRd!
>
> I always recommend to all owners that they authorize at minimum
> changing the HV caps due to the collateral damage they can and will
> cause when they fail. Some decline but most tell me to change them. I
> have changed them in all of my personal KW hybrids. After 35 years
> they dont owe me anything. Cheap insurance.
>
> Terry K9TW
>

49108. Re: [TS-520_820_530_830] VFO-230 Diode

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-24 17:13:37 UTC
From: wagstw46@...
Topic: 49086 Message: 49108

Just in case any TS-820S owner is following this here are my notes on the LD-8109 VFD display tube filament voltage and the cutoff bias zener diode.

1. 5vac P-P
2. 1.8vac rms
3. 13khz square wave
4. DC offset (bias) -20vdc

The cut off bias zener is interesting. They employ two diodes in series to establish the required cutoff bias. D16 BZ-220 22 volt zener and D17 SV-03 2.1vdc silicon diode (this device is three silicon diode junctions in one package) so the two diodes in series provide the 20vdc zener voltage. Some people think that the SV-03 is a varistor and it is not.

Of course the LD-8109 VFD is no longer available and I have never seen the LD-8135 sub either.

Never had a bad display tube or supply voltages on a TS-820S however I work on far fewer of them than any of the hybrid models. My personal TS-820S DG-1 remains flawless (now I am jinxed!).

Terry K9TW

49109. Re: [TS-520_820_530_830] Re: Hi from new member

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-24 17:35:06 UTC
From: wagstw46@...
Topic: 49068 Message: 49109

Mike:

It is funny the logic some folks apply. I would much rather replace HV caps than my power transformer any day. There will come day when wont be any pulls or folks rewinding them.

Some folks who buy their first Hybrid never look at the fuse. I had a TS-520S here last week that had a 250volt 20 amp fuse in it! I see all kinds of non standard fuses. Time delays are most common.

I understand discretionary income limits, but when rig hits my bench you have already incurred $100 in round trip packing and shipping cost, the rig is open on my bench, you sent it to me because you apparently have some level of trust. Why then not take advantage of this opportunity to replace the HV caps especially when I tell you that the rupture vents are not normal.

Of course I am very appreciative of the business, but hate to send it back with the caveat that I cannot warranty any subsequent work that may be required as a direct or indirect result of capacitor failure. Collateral damage is pretty common.

Terry K9TW

49110. Re: [TS-520_820_530_830] Re: Hi from new member

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-24 17:40:03 UTC
From: wagstw46@...
Topic: 49068 Message: 49110

I misspoke. It was an automotive fuse. It was 32vdc at 20 amps and not a 250vdc fuse. Never sub and automotive type fuse for the factory original and never up the amperage.

Terry K9TW

49111. Re: [TS-520_820_530_830] Re: Hi from new member

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-24 19:09:55 UTC
From: Mike W5RKL
Topic: 49068 Message: 49111

Yep, been there. I recently purchase a Drake R4A receiver that had a similar problem, blown power transformer (high voltage secondary winding was shorted). The regular fuse rating specification is 250VAC at 3/4 amp slow blow but a previous owner, for some unknown ridiculous reason, put a 4 amp fuse in the holder. I knew the receiver had a bad power transformer when I bought it so no surprise there, the seller and I were talking via email before I purchased the receiver from him. I was very lucky, I found a company in Grand Haven, MI, "Hayboer Transformers", that made me a new, not a rewind, power transformer made from the specifications of a Drake R4B power transformer. The newer 6K series serial number R4A power transformer has the same specs as the older R4B power transformer.

So the next time the repair tech asked if he should replace the HV caps, tell him yes. You will be glad you did.

Mike W5RKL

49112. 3SK22 needed .

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-25 00:29:19 UTC
From: k7mks@...
Topic: 49112 Message: 49112

Need a 3SK22 (Y) for Q1 2nd Mixer in my T-599D.

Thanks joe k7mks

49113. Re: 3SK22 needed .

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-25 00:37:59 UTC
From: wagstw46@...
Topic: 49112 Message: 49113

A 40673 makes a great sub. Try Scotts Electronics (crystal set supplies). He was selling NOS ones for $6.00.

Can also find the 3SK22 on Ebay from foreign suppliers from time to time. Lastly a NTE-222 will work. Both of these will be closer to $15.00.

Terry K9TW

49114. Re: [TS-520_820_530_830] Re: Hi from new member

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-25 01:02:48 UTC
From: rrmvargo@...
Topic: 49068 Message: 49114

I was lucky. There was no collateral damage when HV1 cap decided to go. After installing the new caps, I also install the protection mods.

However, the output is down again on mine. ~ 75W on the Hybrid net on Saturday. So I need to get back into it again ..... 73 Bob (I love my 830S)

49115. Re: 3SK22 needed .

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-25 01:10:05 UTC
From: pmarkavage@...
Topic: 49112 Message: 49115

JUST REMEMBER:
3SK22 and 40673 / NTE222 have different pin numbers so you just can't pull one out and just insert the other one without adjusting for pin differences.

3SK22 40673 and NTE222
Pin 1 Drain Pin 1 Drain
Pin 2 Source Pin 2 Gate 2
Pin 3 Gate 1 Pin 3 Gate 1
Pin 4 Gate 2 (case) Pin 4 Source

You put it in the wrong way, and you may have to go buy another one.

Pete, wa2cwa

49116. Re: 3SK22 needed .

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-25 00:38:08 UTC
From: clifford wright
Topic: 49112 Message: 49116

Perhaps it would be worthwhile to check out some more modern devices.
Some discrete FET's in plastic packaging have better performance and can
still be easily obtained. 3n222's are VERY rare these days and very
expensive.
Zl1BDA

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

49117. Re: [TS-520_820_530_830] Running a TS-820 QRP (~15-20W)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-25 01:11:14 UTC
From: ryan@...
Topic: 49077 Message: 49117

Thanks for all the great suggestions all. I am still going through everything trying to figure out my best option. I went outside today and took a few pictures of the area I am trying to get setup. Hopefully someone can give me something workable. Unfortunately, I have a strict landlord. They won't let us put any screws in the walls and we can't even paint -- I don't even want to ask about an antenna.

As you can see from the pictures, my window is right at the apex of the garage. Whatever I do I have to keep it to our side. Looking out the window I can't go to the left as that will be visible from our neighbor's porch.

http://i740.photobucket.com/albums/xx41/ryan_donahue1/Ham%20Shack/outsidethehamshack1_zpsf4cd5b78.jpg http://i740.photobucket.com/albums/xx41/ryan_donahue1/Ham%20Shack/outsidethehamshack1_zpsf4cd5b78.jpg

http://i740.photobucket.com/albums/xx41/ryan_donahue1/Ham%20Shack/porcharea_zps6ee3eeea.jpg http://i740.photobucket.com/albums/xx41/ryan_donahue1/Ham%20Shack/porcharea_zps6ee3eeea.jpg

http://s740.photobucket.com/user/ryan_donahue1/media/Ham%20Shack/Underthegutter_zps555812ef.jpg.html?sort=3&o=0 http://s740.photobucket.com/user/ryan_donahue1/media/Ham%20Shack/Underthegutter_zps555812ef.jpg.html?sort=3&o=0

Thanks,

Ryan - W3RMD

49118. Re: [TS-520_820_530_830] Running a TS-820 QRP (~15-20W)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-25 02:43:41 UTC
From: Wes Will
Topic: 49077 Message: 49118

On 06/24/2014 08:11 PM, ryan@... [TS-520_820_530_830] wrote:
> Thanks for all the great suggestions all. I am still going through

Anyone else thinking an off-center-fed in white-insulated 16-gauge wire
tucked into that long run of the soffet?

--
Wes Will
N9KDY

49119. Re: [TS-520_820_530_830] Re: 3SK22 needed .

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-25 03:34:52 UTC
From: k7mks@...
Topic: 49112 Message: 49119

Thanks Pete. I appreciate your help

Joe

----- Original Message -----

From: "530, TS-520" <TS-520_820_530_830@yahoogroups.com>
To: "530, TS-520" <TS-520_820_530_830@yahoogroups.com>
Sent: Tuesday, June 24, 2014 6:10:05 PM
Subject: [TS-520_820_530_830] Re: 3SK22 needed .

JUST REMEMBER:

3SK22 and 40673 / NTE222 have different pin numbers so you just can't pull one out and just insert the other one without adjusting for pin differences.

3SK22 40673 and NTE222

Pin 1 Drain Pin 1 Drain

Pin 2 Source Pin 2 Gate 2

Pin 3 Gate 1 Pin 3 Gate 1

Pin 4 Gate 2 (case) Pin 4 Source

You put it in the wrong way, and you may have to go buy another one.

Pete, wa2cwa

49120. Re: [TS-520_820_530_830] Re: 3SK22 needed .

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-25 03:39:58 UTC
From: k7mks@...
Topic: 49112 Message: 49120

Thanks Terry - I have some 40673 and now to try and fine them! I understand the pin connection for the 3SK22 and 40673 are not identical and I need to take care when inserting the 47673 in the rig.

Joe k7mks

----- Original Message -----

From: "530, TS-520" <TS-520_820_530_830@yahoogroups.com>
To: "530, TS-520" <TS-520_820_530_830@yahoogroups.com>
Sent: Tuesday, June 24, 2014 5:37:59 PM
Subject: [TS-520_820_530_830] Re: 3SK22 needed .

A 40673 makes a great sub. Try Scotts Electronics (crystal set supplies). He was selling NOS ones for $6.00.

Can also find the 3SK22 on Ebay from foreign suppliers from time to time. Lastly a NTE-222 will work. Both of these will be closer to $15.00.

Terry K9TW

49121. Re: 3SK22 needed .

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-25 02:14:18 UTC
From: popeyebob@aol.com
Topic: 49112 Message: 49121

NTE 222 works fine. Be aware that the leads are not in the same order as the original. The over sea 3sk22s work fine too, but with the same lead issue. I have used both in my T-599. Sent from my LG phone

PLEASE remember to properly sign your posts...name & call sign(if any) 73 Joe wb7uqu

49122. Re: [TS-520_820_530_830] Re: 3SK22 needed .

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-25 03:50:21 UTC
From: Wes Will
Topic: 49112 Message: 49122

On 06/24/2014 09:14 PM, 'popeyebob@...' popeyebob@...
[TS-520_820_530_830] wrote:
> NTE 222 works fine. Be aware that the leads are not in the same order as the original.

Just swap pins 2 and 4. With care, not a big deal.

--
Wes Will
N9KDY

49123. Re: 3SK22 needed .

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-25 06:14:32 UTC
From: pmarkavage@...
Topic: 49112 Message: 49123

You said:
"popeyebob@aol.com mailto:popeyebob@aol.com' popeyebob@aol.com mailto:popeyebob@aol.com [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com mailto:TS-520_820_530_830@yahoogroups.com>
To: TS-520_820_530_830@yahoogroups.com mailto:TS-520_820_530_830@yahoogroups.com
Date: Tue, 24 Jun 2014 21:14:18 -0500
Subject: [TS-520_820_530_830] Re: 3SK22 needed .
NTE 222 works fine. Be aware that the leads are not in the same order as the original. The over sea 3sk22s work fine too, but with the same lead issue. I have used both in my T-599.
Sent from my LG phone
PLEASE remember to properly sign your posts...name & call sign(if any) 73 Joe wb7uqu"

If he replaces his 3SK22 with another "3SK22" there is no lead issue.
I would also recommend finding a "top-hat" heat sink to slip over the top of the transistor to help dissipate the heat.
Pete, wa2cwa

49124. TS-820S Carrier Unit CAR-2 CW(T) TC-1 trouble / advice

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-25 10:27:12 UTC
From: paul.nussbaum@...
Topic: 49124 Message: 49124

Good morning all,

My carrier unit has been acting up. I initially had RX in USB and LSB go down to very low volume so I removed the unit, disconnected the two boarda from each other, and disconnected the connection of the lower board to the rest of the radio, reconnected everything and checked the little side connection with the loop... After that, USB and LSB RX came back strong, so I think it was the connections.

Now, I have the leading 9, 21, and 29 on the display when in CW TX...

I just pulled the CAR-2 board and tested continuity across TC-1 and found it is conducting, whereas TC-2 and TC-3 remain open, so I think TC-1 is the failure for this.

I am an absysmal solderer, but I can try to replace TC-1 with another.
Or I could send the board or the whole carrier unit to someone with a 820 willing to do so, which might be better since the new TC-1 would have to be "set" to the right TX offset?

Or maybe someone has a spare Carrier unit or just the CAR-2 board?

Does my analysis sound right that this is the failure?

Any advice on how best to proceed?

TC-1 on the schematic is "p 10" so 10 picofarads?
What else should I know or do?

Thanks,
Paul
AD5FT

49125. Another VFO-230 fault..

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-25 08:54:17 UTC
From: Stephen Gilbert
Topic: 49125 Message: 49125

Hi guys...has anyone come across a VFO-230 which crashes after about 15 minutes from working perfectly, leaving a single digit on the display?? I am currently, re-soldering some of the many joints on the board and replacing old electrolytic caps. to see if this cures the problem. It hasn't done yet!

Stephen, G3OAG

49126. Re: [TS-520_820_530_830] Running a TS-820 QRP (~15-20W)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-25 15:47:31 UTC
From: n7iqv@...
Topic: 49077 Message: 49126

Ryan...

Now I REALLY am glad I own a single family house, with no HOA!

After reading about the "no screws" restriction, have you considered checking out the 3M "Command" series hangers and such? They are very good in not leaving marks or damaging painted surfaces. That might allow you to tack up the antenna wiring without worrying with the other "restrictions".

John/N7IQV

49127. Re: TS-820S Carrier Unit CAR-2 CW(T) TC-1 trouble / advice

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-25 15:54:34 UTC
From: wagstw46@...
Topic: 49124 Message: 49127

Are you sure you are not measuring R3 to ground? I cant imagine why you would be reading continuity on any of your ceramic trimmer caps?

I dont think in the course of troubleshooting that I have ever measured continuity on a ceramic trimmer cap. Rotated them thru the range multiple times as they can sit in one spot for a long time. Also cleaned them and re-soldered a few.

Are you saying that you cannot obtain 8830.70 mhz by adjusting TC-1? Is that why you are checking continuity?

Have you verified that you have 300mv carrier level at CA-2 and CA-1?

Terry K9TW

49128. Re: [TS-520_820_530_830] Running a TS-820 QRP (~15-20W)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-25 15:56:54 UTC
From: Bob
Topic: 49077 Message: 49128

After having our own homes for 40 years, moving to and living in a rental that is also HOA / .CC&R is a really a difficult situation for us.

ANY repairs MUST be done by a "professional". Any improvements become the property of the landlord....now throw into the mix Ham Radio and antennas! Many of my Ham friends are in or facing the same situation.

So, I've got my nice TS-830, IC-7000, 2m/440, and about 5 more rigs.....and face "antenna wars" starting next week...Previously, had a 20m SteppIR and 40-10 OCF up about 30 feet....oh well. Plan to start with an attic "slinky" and see where it goes from there

Bob / WA2JAJ

On Wednesday, June 25, 2014 11:47 AM, "n7iqv@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Ryan...

Now I REALLY am glad I own a single family house, with no HOA!

After reading about the "no screws" restriction, have you considered checking out the 3M "Command" series hangers and such? They are very good in not leaving marks or damaging painted surfaces. That might allow you to tack up the antenna wiring without worrying with the other "restrictions".

John/N7IQV

49129. Re: TS-820S Carrier Unit CAR-2 CW(T) TC-1 trouble / advice

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-25 16:20:57 UTC
From: wagstw46@...
Topic: 49124 Message: 49129

I forgot to mention if you think Carrier level to the Counter Mixer board is reason for digital display issues have you measured the two signal inputs at the Counter Mixer board? You need CVC (VCO) at approx 900mv rms and you need CCR (Carrier) at approx 100mv. Carrier comes from CA-2 routed to the IF board and level set by TC-1 near Q17.

Terry K9TW

49130. Re: 3SK22 needed .

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-25 12:39:03 UTC
From: popeyebob@...
Topic: 49112 Message: 49130

Not true. The 3SK22's you buy from eBay still have to have pin's 2 & 4 swapped. I know from experiance.

73
Robert Fitch
NB9G

49131. Re: 3SK22 needed .

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-25 18:16:13 UTC
From: pmarkavage@...
Topic: 49112 Message: 49131

You said: "Not true. The 3SK22's you buy from eBay still have to have pin's 2 & 4 swapped. I know from experiance. ***73*** Robert Fitch NB9G"

Let me clarify. If you buy a generic branded 3SK22, (i.e. it has no other markings on the case other then the part number(3SK22), you will have to verify the correct leads. OEM 3SK22's generally (but not always) will have mfr's name or symbol, besides the part number, on the transistor and the original pin designations apply. At least on all the OEM 3SK22's I have, that's what I see. The NTE version and the generic Ebay versions are probably all made by the same Company(s) and just have different product codes.
Pete, wa2cwa

49132. Re: [TS-520_820_530_830] Running a TS-820 QRP (~15-20W)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-25 18:53:44 UTC
From: ryan@...
Topic: 49077 Message: 49132

(I've tried this response a few times but Yahoo Groups doesn't seem to like me. I hope it goes through this time.)

Thanks so much for all the responses. HOA restrictions place a real burden on the ham radio operator but I suppose it also helps us get creative!

I think that the off-center end-fed antenna might just do the job. I have gotten the screen out of the window successfully so I am thinking of picking up an MFJ window passthrough and running a white coax to the corner of the house and garage. From there running a long strip of white wire under the soffet along the length of the garage for the long end and then another above the sliding glass door. I'm hoping that I have enough room along the garage and house for both sides of the end-fed.

One question about the end-fed. With an antenna tuner would I be able to get the one antenna to tune up for multiple frequencies or should I just cut it to optimum for one frequency? I might be able to get away with the one antenna but I don't think I'll have much luck with any more than that.

Ryan - W3RMD

49133. Re: TS-820S Carrier Unit CAR-2 CW(T) TC-1 trouble / advice

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-25 21:08:05 UTC
From: paul.nussbaum@...
Topic: 49124 Message: 49133

Terry,

I originally I measured at the solder on the back of the board.

I have remeasured from the front.
TC1 conducts through all these combinations below, whereas TC2 and TC3 do not conduct through any of these:

right back leg to front leg
left back leg to front leg
screw to front leg
screw to left back leg
screw to right back leg

I'm looking at TC1 because the Service Manual Troubleshooting page 40 symptom 1 condition is the display showing 9 / 19 / 29.000.0 which is what happens when I switch to Send in CW /TUN /FSK. The Cause is listed as "no carrier signal comes in", and I'm thinking TC1 is in the CW transmit carrier circuit.

I measured CA-2 on the connector between the two carrier boards.
I'm not finding CA-1.

In USB and LSB mode, CA-2 measures 425mv in both RX and TX on the VTVM ACV 1.5V scale.
425mv x .707 is about 300rms...
In TUN, CW, and FSK, CA-2 measures 425mv in RX, goes to 0 reading in TX.

Thx,
Paul
AD5FT

49134. Re: TS-820S Carrier Unit CAR-2 CW(T) TC-1 trouble / advice

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-25 23:13:03 UTC
From: wagstw46@...
Topic: 49124 Message: 49134

Paul

The screw driver slot to the front leg should read close to 30K ohms as you are reading across R3 33k resistor that is in shunt with the trimmer. The screwdriver slot is electrically the same point as the two legs on either side.Those three points are one plate of the capacitor and the front leg is the other plate of the capacitor. If you measure from left to right side leg will read a dead short of read from left or right leg to slot will be dead short. That will be the same for TC-2 and TC-3. It is how these ceramic trimmers are designed. Only reason for three legs is mechanical stability.

Perhaps you have a bad D1 switching diode. With board out can check it with ohm meter or diode position of DMM.

Terry
K9TW

49135. Re: [TS-520_820_530_830] Running a TS-820 QRP (~15-20W)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-26 01:46:11 UTC
From: John Davidson
Topic: 49077 Message: 49135

Hi ryan, there are some end fed lengths you should avoid where the X or Z is too far from something most tuners can handle on some bands..
The various antenna builder's books have charts of good and bad lengths for random, non-resonant antennas that can work several bnads with a good tuner.
I was a ham when I got my first apartments and bought my first house so I did not have the situation of many new hams who bought housing before they got interested in radio !!
All I can say is M O V E !

On Wednesday, June 25, 2014 2:53 PM, "ryan@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

(I've tried this response a few times but Yahoo Groups doesn't seem to like me. I hope it goes through this time.)

Thanks so much for all the responses. HOA restrictions place a real burden on the ham radio operator but I suppose it also helps us get creative!

I think that the off-center end-fed antenna might just do the job. I have gotten the screen out of the window successfully so I am thinking of picking up an MFJ window passthrough and running a white coax to the corner of the house and garage. From there running a long strip of white wire under the soffet along the length of the garage for the long end and then another above the sliding glass door. I'm hoping that I have enough room along the garage and house for both sides of the end-fed.

One question about the end-fed. With an antenna tuner would I be able to get the one antenna to tune up for multiple frequencies or should I just cut it to optimum for one frequency? I might be able to get away with the one antenna but I don't think I'll have much luck with any more than that.

Ryan - W3RMD

49136. Re: TS-820S Carrier Unit CAR-2 CW(T) TC-1 trouble / advice

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-26 03:39:03 UTC
From: paul.nussbaum@...
Topic: 49124 Message: 49136

Thanks Terry, found trouble with D4 and D5.

I measured 33kohm, TC1 screw to front leg.

I confirmed D1's forward and reverse OK.

I continued to test all the diodes and found a problem with D4 and D5 - neither is passing forward.
The solder point the diodes' forward leads share in common does pass continuity between both forward leads, but neither diode is passing forward to their reverse lead termination traces.

I tested the continuity of the local traces OK.

Paul
AD5FT

49137. Re: TS-820S Carrier Unit CAR-2 CW(T) TC-1 trouble / advice

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-26 12:29:08 UTC
From: wagstw46@...
Topic: 49124 Message: 49137

Did you ever verify that you have 9vdc at CW terminal on CAR-2 board when in CW mode and flipped to Send?

If not you need to do that. That 9vdc is supplied by RLT thru Aux relay contacts. Wouldnt be first time bad/dirty relay contact caused a problem.

Mode switch contacts also involved but seldom a problem.

If you have the "can" out of the rig can power it on the bench to see if can get CA-2 output. All you need is 9vdc to power Q1/Q2 and 9vdc for diode switching. If no bench supply can use 9vdc transistor batteries for this.

Terry K9TW

49138. Re: [TS-520_820_530_830] Running a TS-820 QRP (~15-20W)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-26 18:43:24 UTC
From: glene77is@...
Topic: 49077 Message: 49138

Ryan - W3RMD As encouragement I send a little note.

I routinely use an HW8 and a Knwd 830, a hidden LongWire,
in CW mode only, and fairly low power.

I live in a HOA also.
I use a 225' Long-Wire, black wire, along the roof-line and behind the rose-bushes on the fence.
I always use a tuner, the MFJ-941 at first, then picked up a little HeathKit HFT9 from way back!
The LongWire is trimmed by literally rolling up the end 8' at a time, and taping it into a coil.
Have been able to get 80 , 40, 20, 21, at near 1:1.1.
Worked Hawaii on 0.5 W, CW, 20M, confirmed.
This is obviously a Non-Resonant LongWire.
I use a 1:1 current balun and a short run of coax to the tuner,
and have a 30' counter-poise wire run under the edge of the lapboard wood on the side of the house.
No Magic here, just good ideas and cut-n-try and re-tune.

Passing along this really neat idea from a ham contact:
A contact wrote that he had been loading his Rain Gutters, from the bottom end.
The Rain Gutter was not grounded, except by the nails into the facia board.
He has a cointerpoise laying next to his foundation on the ground.
He also has 300W and is willing to heat up the gutter a little.
I run about 3W to 10W and don't want to waste any power.
His Gutters are on he second story roof, and mine are on a first story roof.
I may try a better connection on my own Rain Gutters, right at the ground (instead of at 10' up),
maybe it will work better than the first time.

BTW, my length of antenna brings a lower impedance to the Tuner.
If you accidently cut to an even number of Quarter WaveLengths,
then you may bring a 2000 Ohm to the tuner, and that may be out of range.
In my reading, I have seen istructions to use Odd-Quarter WaveLengths on a LongWire.
That is why I rolled up various lengths of the original LongWire at the Far End,
retuning the Tuner each time, on each band, to see if the multiple bands could be loaded OK.
The roll-up method seems to work.

Well, that is what I did, in general,
and I found that the Tuner made things work very well most of the time.
No Magic here, just good ideas and cut-n-try and re-tune.

If you like CW audio filters, you can check
my local site Yahoo Groups "glene77is_Sand-Box" for an assortment of design projects,

or my website at www. GeoCities.WS/glene77is for documentation.
Glen Ellis, KK4LPG

49139. Re: [TS-520_820_530_830] Running a TS-820 QRP (~15-20W)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-27 00:16:46 UTC
From: Bob
Topic: 49077 Message: 49139

Thanks for the ideas! I really won't know what's possible and not until later next week when we move there. Also not certain yet where the shack will be...first floor but front or second floor facing the rear. Then I have to fire up the TS-830 to see how it survived two moves and no use for almost a year...

I do have some experience with long wire antennas as I ran with one in the mid 1970's on 80m. Of course, at that time, my main antenna was a tri-band cubical quad with bamboo spreaders up on the roof! Gone are the days..

73 & Best

Bob /WA2JAJ

49140. Rigol DS-1022

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-27 16:26:03 UTC
From: wagstw46@...
Topic: 49140 Message: 49140

Recently added the Rigol DS-1022 Arbitrary Waveform and Function Generator to the service bench.

Thanks to Jeff Covelli WA8SAJ for steering me to it.

If interested go to my website (k9tw.com) and look under Whats New and can read some of the ways I will be using this new tool to service KW hybrids.

Terry K9TW

49141. Re: Rigol DS-1022

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-27 20:15:30 UTC
From: wagstw46@...
Topic: 49140 Message: 49141

TYPO

DG-1022 and not DS-1022 (digital generator = DG)

Terry K9TW

49142. Re: TS-820S Carrier Unit CAR-2 CW(T) TC-1 trouble / advice

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-27 21:28:00 UTC
From: paul.nussbaum@...
Topic: 49124 Message: 49142

Terry,

Thanks for bearing with me...

Old business...
I measured CAR-2 CW(T) TC1 for continuity instead of resistance.

After your counsel I measured the readings you predicted that suggest the trimmer is OK.
I measured D1 to be OK (forward and reverse function).

New business...
I measured +9.5 vdc at "9" terminal and CW terminal in Send.

Before switching Send, the CW terminal measures neg (-)2.2 vdc... normal?

I measured 600mv (425mv rms) at CA-2 in REC
CA-2 drops to 0mv in CW Send

Relay visually / audibly appears to be functioning.

Thanks,
Paul
AD5FT

49143. Re: TS-820S Carrier Unit CAR-2 CW(T) TC-1 trouble / advice

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-27 22:19:44 UTC
From: wagstw46@...
Topic: 49124 Message: 49143

Paul:

I assume you are measuring at Molex connector CJ-2?

Your voltages at Pins 3 and Pin 5 are normal. It would be very unusual for those voltages not to be available at the jumper pins between the two boards, but I would also measure CW and 9 at the 10 pin jumper.

Does Oscillator start in FSK? If it does not then look at diode D3. Should see approx 0.30vdc barrier on the diode test position of a DMM as it is a germanium diode.

If D3 is good then try reheating the solder connections of pins of X1 8830.7 crystal. Can also check D7 but I dont think it is accessible from component side of the board?

Terry K9TW

49144. Re: TS-820S Carrier Unit CAR-2 CW(T) TC-1 trouble / advice

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-27 23:09:31 UTC
From: wagstw46@...
Topic: 49124 Message: 49144

Paul

Looking at the schematic if you measure from CW terminal to Cathode of D7 you should be able to see both D1 and D7 junctions so you should read close to 1.20vdc on DMM diode test. D7 cathode will be accessible from component side of the board.

Terry K9TW

49145. Re: TS-820S Carrier Unit CAR-2 CW(T) TC-1 trouble / advice

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-27 23:40:54 UTC
From: paul.nussbaum@...
Topic: 49124 Message: 49145

UPDATE!

CA-2 now goes to about 850mv (about 600mv rms) CW Send.
Display works right in Send with correct TX offset for CW.

I must have brushed T1 to knock if off by a minute amount, really sensitive, the correction was just a hair...

Do you have a recommendation for a frequency counter (HF only)?

Paul,
AD5FT

49146. Re: TS-820S Carrier Unit CAR-2 CW(T) TC-1 trouble / advice

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-28 01:19:32 UTC
From: wagstw46@...
Topic: 49124 Message: 49146

You need to adjust it for 300mv rms.

You dont want 600mv of carrier osc level.

The service manual says 50mv but that is incorrect. 300mv will give you proper LO injection level for proper mixer action. Too high a carrier level at the Balanced Mod and the Product Detector can result in carrier leak thru. Check C1A (CA-1) and adjust it for 300mv as well.

Terry K9TW

49147. Re: TS-820S Carrier Unit CAR-2 CW(T) TC-1 trouble / advice

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-28 01:36:50 UTC
From: wagstw46@...
Topic: 49124 Message: 49147

I have no experience with them but the Victor or Sinometer VC-2000 can be bought new for $100.00

Terry K9TW

49148. KENWOOD HYBRID NET

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-28 02:23:42 UTC
From: Mark Gilger
Topic: 49148 Message: 49148

I probably don't have to say this, but this weekends Saturday &
Sundays nets won't be held due to field day. See everyone next week.

Mark, WB0IQK

49149. Re: [TS-520_820_530_830] Re: TS-820S Carrier Unit CAR-2 CW(T) TC-1 trouble / advice

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-28 12:36:20 UTC
From: Mike W5RKL
Topic: 49124 Message: 49149

The Sinometer VC2000 is a nice general purpose frequency counter.
Another good general purpose frequency counter is the Heathkit IM-4100.
I have both and use them regularly.

The VC2000 has a feature that allows the user to test crystals but only
on the crystal's "Fundamental" frequency. Overtone crystals will
oscillate in the counter's test circuit but show only the crystal's
"Fundamental" frequency.

Just my 2 cents worth.

73
Mike W5RKL

On 6/27/2014 8:36 PM, wagstw46@... [TS-520_820_530_830] wrote:
>
> I have no experience with them but the Victor or Sinometer VC-2000 can
> be bought new for $100.00
>
>
> Terry K9TW
>

49150. Re: TS-820S Carrier Unit CAR-2 CW(T) TC-1 trouble / advice

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-28 13:50:31 UTC
From: paul.nussbaum@...
Topic: 49124 Message: 49150

Well, nothing but troubles now. I guess I'm going to need a frequency counter to untangle things; I think I have multiple things out of whack, hopefully nothing broken.

I tried setting the carriers down to 300mv rms.

I adjusted T1 on Car-1 measuring at IF board TP-5 and checked the same measure from the CA2 connector between Car-1 and Car-2 boards.

I had a note from somewhere that IF TP-6 was C1A, but I found that with the VTVM ground connected to the chassis I got nothing, but with that ground removed it measures 120V ac... not sure what's going on there. The x-ray trace board picture shows TP-6 as "CLR".

I measured C1A at the same connector between the two CAR boards and adjusted Car-2 T1 to measure 300mv.
It measures 300mv in Send, but it measures about 200mv in Standby... is that normal?

Now the display has problems again, is close to expected values for the low bands during Standby, but the last two or three least significant digits don't settle down.
Send stabilizes the display.
Except 160m band - display is blank in both Standby and Send.
The 10m band leads the display with 19.

At first I though the CW filter might no longer be functioning because the pitch of the beat frequency offset of the marker was very high, but it is functioning; it has the sharp meter peak, but the peak s-meter indication no longer aligns with the beat frequency that matches the CW key sidetone... my side tone is 732Hz, but the lowest pitch I get at marker meter peak is a little over 1KHZ.
I tried adjusting the USB trimmer on the CAR-2 board to shift the placement in the filter to set the peak's corresponding audio frequency to the key side tone but can't get close at all.
If I match side tone to incoming signal offset beat frequency, the tuning no longer places the rec signal at the S-meter peak. Likewise, if I peak the meter, the CW TX offset will no longert match the rec signal frequency. The difference between the rec audio beat pitch and the side tone pitch I can't get any closer than about 300Hz..

Paul
AD5FT

49151. Re: TS-820S Carrier Unit CAR-2 CW(T) TC-1 trouble / advice

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-28 15:20:56 UTC
From: wagstw46@...
Topic: 49124 Message: 49151

Paul:

You dont adjust T1 on CAR-1 board to set level at TP-5 on the IF board? Why are you doing that? I told you that the service manual is wrong regards setting the Carrier Oscillators. CAR-1 has nothing to do with CA2 level.

If you read the step and then look at the schematic it should jump out at you. This service manual has numerous mistakes the worse being when it calls out the wrong adjustment trimmer, the wrong test point and the wrong acceptance criteria all in one step.

You can search the archives and find lots of discussion about proper adjustment of the TS820 carrier oscillators.

Look at the schematic and you will see that TP-5 is supplied via CA2 and not CA1 (C1A).

After you adjust CA2 for 300mv rms then TC-1 on the IF board is adjusted for approx 100mv CCR level at the Counter Mixer board. You can measure it at TP-6 but I like to make sure I have it at the Counter Mix board.

At each step in the Service manual you must question it. Look at the adjustment device and test point and acceptance criteria and see if it makes sense to you. When it does not come back and ask. Easy to see if wrong adjustment trimmer and wrong test point is called out. Not as easy to tell if the acceptance criteria is correct without some knowledge and experience. For example you would never expect to see 50mv LO level for the Balanced Mod or the Product Detector. Likewise those who tell you it is a typo and should be 500mv are just guessing. 300mv is the correct level.

Terry K9TW

49152. Re: TS-820S Carrier Unit CAR-2 CW(T) TC-1 trouble / advice

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-28 16:12:27 UTC
From: wagstw46@...
Topic: 49124 Message: 49152

Paul

Here are couple of messages to look at I found with a quick search. There are numerous more related to the errors in the 820 service manual.

30076 and 30090

Terry K9TW

49153. Re: TS-820S Carrier Unit CAR-2 CW(T) TC-1 trouble / advice

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-29 00:38:37 UTC
From: paul.nussbaum@...
Topic: 49124 Message: 49153

Terry,
Thanks for those. I have read message 30090 before. It makes the same mistake as the service manual, confusing the carrier boards.

Switch to CW mode. With the transmit switch in Send adjust TC-1 on the CAR-1 board, the board on top, to 8830.7 khz and adjust coil T1 on the CAR-1 board to get 0.3 V output.

The other two adjustments on the CAR 1 board, TC2 and TC3, are for adjusting the FSK frequencies in case you are interested.

In trying to understand things, I have collected a lot of information, none of it I trust until I have checked it. I won't be doing anything until I have access to a frequency counter; then I will resume.

Thanks,
Paul
AD5FT

49154. Re: TS-820S Carrier Unit CAR-2 CW(T) TC-1 trouble / advice

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-29 11:31:03 UTC
From: wagstw46@...
Topic: 49124 Message: 49154

Paul:

Sorry.

I quickly scanned them and saw that they addressed the Car Osc level issues that you continue to struggle with and if you dont adjust them properly you wont need a frequency counter.

I hope you realize when it comes to setting the LSB and USB trimmer caps TC-1 and TC-2 that the frequencies listed in the Service Manual table under Step 2-1 are only a starting point. You need to adjust the "Carrier Point" for proper SSB frequency response. The IF crystal filter response is set so you have bring the Car Oscillators to the filter. Cant assume that the frequency listed in the table is the filter Fc.

Some do that by:
1. Ear (as adjustment has an element of personal preference)
2. By using the Marker, AGC fast, zero beat method
3. By using audio spectrum analyzer software like Spectrogram
4. By using the audio generator injection in the mic line and watt meter method for equal 3 dB roll off.

There are lots of TS820 owners here including Joe our leader who have good knowledge and experience when it comes to aligning this radio. I will let them run with this from this point if you have any other issues or questions once you get your frequency counter. By the way I do agree a Freq Counter is a necessary piece of basic test gear.

Have Fun

73s
Terry K9TW

49155. Not power after replace 6146B /12BY7 Kenwood TS 530SP

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-29 12:46:52 UTC
From: hk5jor@...
Topic: 49155 Message: 49155

Good morning:
I wonder if anyone can help me with the following situation:

After taking the decision to replace the 6146B and 12BY7 in my Kenwood 530SP, due to poor power transmission, which after a few minutes or hours of use and a poor quality audio (like I was talking under water); once replaced the tubes, in my attempt to tune the radio to continue with synchronization, I can see that no power transmission, when calibrating the plate, the needle only moves a little, as also for the load (under 50 40 mA).
Before I change the tubes, I could calibrate correctly, the problem consisted in the gradual loss of power and audio quality, but I finally I could calibrate the radio, but I could see, that I was not getting the real power (approx. 100W) when calibrating the plate.
All this, before change the tubes.

Could you guide me on what I could do o what I could check.

Note:
Experience in electronics: Basic
Electronic bench: Basic
Experience in Hybrid Radios: Basic (this is my first hybrid radio).

Thanks in advance.

Alberto Mesa
KK4YIT

49156. Re: [TS-520_820_530_830] Not power after replace 6146B /12BY7 Kenwood TS 530SP

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-29 13:22:20 UTC
From: R Oler
Topic: 49155 Message: 49156

Have you checked voltages? Warning the voltAges in the radio can be fatal know what you are doing before you do it. Robert. WB5MZO

Sent from my iPad

> On Jun 29, 2014, at 19:20, "hk5jor@yahoo.com [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:
>
> Good morning:
> I wonder if anyone can help me with the following situation:
>
>
>
> After taking the decision to replace the 6146B and 12BY7 in my Kenwood 530SP, due to poor power transmission, which after a few minutes or hours of use and a poor quality audio (like I was talking under water); once replaced the tubes, in my attempt to tune the radio to continue with synchronization, I can see that no power transmission, when calibrating the plate, the needle only moves a little, as also for the load (under 50 40 mA).
>
> Before I change the tubes, I could calibrate correctly, the problem consisted in the gradual loss of power and audio quality, but I finally I could calibrate the radio, but I could see, that I was not getting the real power (approx. 100W) when calibrating the plate. All this, before change the tubes.
>
>
>
> Could you guide me on what I could do o what I could check.
>
>
>
> Note:
> Experience in electronics: Basic
>
> Electronic bench: Basic
>
> Experience in Hybrid Radios: Basic (this is my first hybrid radio).
>
>
>
> Thanks in advance.
>
>
>
> Alberto Mesa

>
> KK4YIT
>
>
>
>

49157. Re: [TS-520_820_530_830] Not power after replace 6146B /12BY7 Kenwood TS 530SP

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-29 13:48:00 UTC
From: Mike W5RKL
Topic: 49155 Message: 49157

Alberto,

If you would please, explain what you mean by "tune the radio to continue with synchronization".

Have you performed the 60ma bias pot adjustment as indicated in the 530 operator's manual?

If you do not have the 530 operator's manual, you can find and download it at my website:

www.w5rkl.com/manuals-and-documents/

Scroll down to the TS-530 and click on the operator's manual.

73
Mike W5RKL

49158. "Purely Resistive versus Highly Reactive Loads: a mechanical analogy."

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-29 14:22:39 UTC
From: Mike W5RKL
Topic: 49158 Message: 49158

The subject by Don Chester, K4KYV, on AMFONE.NET.

http://amfone.net/Amforum/index.php?topic=30831.0

73
Mike W5RKL

--

49159. Re: [TS-520_820_530_830] Not power after replace 6146B /12BY7 Kenwood TS 530SP

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-29 13:32:14 UTC
From: hk5jor@...
Topic: 49155 Message: 49159

Good morning Robert:

I have taken the necessary precautions to avoid electrical shocks when changing tubes. Can you tell me where I need to measure voltages?, I have the service manual.

V/R

Al
KK4YIT

49160. Re: [TS-520_820_530_830] Not power after replace 6146B /12BY7 Kenwood TS 530SP

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-29 14:32:20 UTC
From: hk5jor@...
Topic: 49155 Message: 49160

Good morning Mike:

According Syncro instructions, I must first tune up the radio to regular transmission work, drive plate and load, in this case, to 28.500 Mhz and after, tube syncro o am I wrong?

Only after read your message I did the 60mA calibration, but with same results,

Thank again i hope you have more help information for me Sr.

V/R

Al
KK4YIT

49161. Re: [TS-520_820_530_830] "Purely Resistive versus Highly Reactive Loads: a mechanical analogy."

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-29 14:34:40 UTC
From: L L bahr
Topic: 49158 Message: 49161

In other words, if you don't know where your studs are, "It's like a box of chocolates, you never know what you are going to get!".

Lee, w0vt

--

49162. Re: [TS-520_820_530_830] Not power after replace 6146B /12BY7 Kenwood TS 530SP

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-29 17:31:02 UTC
From: wagstw46@...
Topic: 49155 Message: 49162

Mike:

I think he may be talking about neutralizing his new finals as the service manual calls out using a "synched scope" as a null detector. Just my guess?

Terry K9TW

49163. Re: [TS-520_820_530_830] Not power after replace 6146B /12BY7 Kenwood TS 530SP

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-29 18:01:25 UTC
From: hk5jor@...
Topic: 49155 Message: 49163

Good afternoon Terry:
Correct, according manual, after tube replace, I must synchronize the tubes. i don't have RF meter, then my idea is use other receptor to minimal signal. Thank you.

Al
KK4YIT

49164. Re: [TS-520_820_530_830] Not power after replace 6146B /12BY7 Kenwood TS 530SP

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-29 18:58:32 UTC
From: Joseph Stiles
Topic: 49155 Message: 49164

Al,

You stated that you had some output prior to changing the 12by7 and the 6146B. After the change, you have no power output. Unless, you have done something else along with changing the tubes, I suspect this should point to bad driver(12by7a) or bad final amp tubes(6146B) May I suggest that you put the old tubes back in, and check to see if they work.

Replacing the final amplifier tubes(6146B) and not neutralizing them, In my opinion, should not keep them from putting out good RF power..IF the tubes are good to start with. Many people make the mistake of changing too many things at the same time...and complicating what is usually a simple problem. Change ONE THING AT A TIME, take measurements/observations, and go from there

73 Joe
WB7UQU

On Sunday, June 29, 2014 11:36 AM, "hk5jor@yahoo.com [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Good afternoon Terry:
>Correct, according manual, after tube replace, I must synchronize the tubes. i don't have RF meter, then my idea is use other receptor to minimal signal. Thank you.
>
>Al
>KK4YIT
>
>
>

49165. Re: [TS-520_820_530_830] Not power after replace 6146B /12BY7 Kenwood TS 530SP

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-29 19:33:30 UTC
From: wagstw46@...
Topic: 49155 Message: 49165

Al

Yes you can use another receiver as a rf null detector by sitting it close to your TS530SP. Make sure it is warmed up so VFO is not drifting and S-meter indication wont drift off its peak.

Tune it to 28.800 and peak the S-meter indication presented by the RF from your TS530SP by adjusting the other receivers VFO. Then you can adjust the TS530SP neutralizing trimmer capacitor with an insulated tool to get the lowest S-meter indication on the other receiver.

Make sure you have the Screen Grid switch turned off. If you have problems getting enough signal into the other receiver for a good S-meter indication you can use a piece of insulated wire between the two rigs. Skin one end to bare copper and insert in your TS530SP SO-239 connector on rear panel and then insert the other end with the insulation remaining on it into the test receivers SO-239 connector. You will be capacitively coupling the rf signal from your TS530 into the front end of the test receiver.

If you are having problems loading your TS530SP I would fix that problem before worrying about neutralization of your new finals. You cannot do a good job of neutralizing the new tubes on 10 meters until you can load to full output which will then get the Plate Load and Plate Tune capacitors in correct position for 28.800mhz.

Do all your transmitter troubleshooting and testing on 40 meters into a dummy load and there will be no concern about neutralizing on 10 meters until you have a fully functional transmitter. Your TS530SP wont take off on 40 meters with its new un-neutralized final tubes.

Terry K9TW

49166. Re: [TS-520_820_530_830] Not power after replace 6146B /12BY7 Kenwood TS 530SP

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-29 19:44:27 UTC
From: Mike W5RKL
Topic: 49155 Message: 49166

You may be right Terry but synchronizing the tubes just did not make any sense. I suspect the use of proper terminology such as "neutralizing" instead of "synchronizing" would have made more sense.

73
Mike W5RKL

On 6/29/2014 12:31 PM, wagstw46@... [TS-520_820_530_830] wrote:
>
> Mike:
>
>
> I think he may be talking about neutralizing his new finals as the
> service manual calls out using a "synched scope" as a null detector.
> Just my guess?
>
> Terry K9TW
>

49167. Re: [TS-520_820_530_830] "Purely Resistive versus Highly Reactive Loads: a mechanical analogy."

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-29 19:48:52 UTC
From: Jan Servaites
Topic: 49158 Message: 49167

Not to write a lengthy tutorial on the subject, I want to mention
another analogy is up in the "light" band. To simplify, consider visible
light waves (can use infrared and way down to 94ghz too).
Look at your better optical lenses. They are coated to prevent
reflections. The coatings are usually the average index of refraction
between air and the optical glass and I think they are 1/4 wave in
thickness at like 550nm wavelength (center of the visible band)
Compare a coated lens to a plain uncoated lens. There's a significant
difference in reflections, something like 9% I think.
Look at an IR lens using visible light. You'll notice how much thicker
the coatings are and not much white light is transmitted through it. Of
course, some IR lens materials are opaque (germanium) anyway and no
white light can pass through at all, and mostly all reflected.
At 94ghz, lenses are made of Teflon and some other materials. For it's
anti-reflection coating, there is none. Instead 1/4 wave grooves are
machined on the lens' surface, so the average index is 1/2 air & 1/2 teflon.
Jan N8CBX

Mike W5RKL w5rkl@... [TS-520_820_530_830] wrote:

>
>
> The subject by Don Chester, K4KYV, on AMFONE.NET.
>
> http://amfone.net/Amforum/index.php?topic=30831.0
>
> 73
> Mike W5RKL
>
>--
>
>
>
>

49168. Re: [TS-520_820_530_830] Not power after replace 6146B /12BY7 Kenwood TS 530SP

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-29 19:47:19 UTC
From: hk5jor@...
Topic: 49155 Message: 49168

Good afternoon Joe:

Thank for you suggestion, I did it, but with same results. However, I want a try again, I need dedicate more time to observe and measure, I am going too fast, and I'm learning that with hybrid radios, is different.

Very Respectfully,

Al
KK4YIT

49169. Re: [TS-520_820_530_830] Not power after replace 6146B /12BY7 Kenwood TS 530SP

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-29 19:54:16 UTC
From: hk5jor@...
Topic: 49155 Message: 49169

Ohhhh, sorry was my big mistake, talk about sync. Again, my apologies, yes Mr. Mike the correct world is "neutralization".

V/R

Al
KK4YIT

49170. Re: [TS-520_820_530_830] Not power after replace 6146B /12BY7 Kenwood TS 530SP

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-06-30 01:29:47 UTC
From: wagstw46@...
Topic: 49155 Message: 49170

I agree with Joe the simplest first step to try would be to try another known good Driver tube with the original 6146 final tubes. It is more common for the Driver tube to lose significant amount of emission than the 6146 tubes.

Also, what is your plate voltage doing?

You can monitor it by placing the meter switch to HV position. Should see approx 900vdc on the Red HV meter scale. If you see approx 450vdc then you have lost one of the two HV filter capacitors. That could also explain your audio distortion.

It appears you do not have much KW hybrid knowledge or experience. What is your experience level and what basic test gear do you have and understand how to use? Will help members to know a little something about your capabilities.

Terry K9TW

49171. group info update

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-01 17:19:08 UTC
From: Joseph Stiles
Topic: 49171 Message: 49171

Greetings Group!

  Well...half of 2014 is in the log book...my mom was right...the older you get the faster time seems to pass!...should have payed more attention...but when she said that, I was a teenager...and knew everything!

  I wish to thank Mike-w5rkl(group moderator), Terry-k9tw(nice bench Terry!), and many others, that have made significant effort to make this group the place to go for keeping our Kenwood hybrids up-n-runnin' !

 Some stats thus far(01-01-14 to 06-30-14):

  Approved memberships: 194

  Rejected memberships: 19

  Banned: 5

  Unsubscribed 67

To all military service members past and present: THANK YOU FOR MAKING THIS INDEPENDENCE DAY POSSIBLE!

  So.... on behalf of me, Joe-wb7uqu(your benevolent overlord), Mike-w5rkl(group moderator and my right hand man), Have a safe and fun Independence Day weekend.

73 Joe
WB7UQU

49172. Re: [TS-520_820_530_830] group info update

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-01 18:01:43 UTC
From: Ron
Topic: 49171 Message: 49172

Right back at ya !!!

Ron KK4PWF

On Jul 1, 2014, at 12:19 PM, "Joseph Stiles stilesjoseph@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
> Greetings Group!
>
> Well...half of 2014 is in the log book...my mom was right...the older you get the faster time seems to pass!...should have payed more attention...but when she said that, I was a teenager...and knew everything!
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> I wish to thank Mike-w5rkl(group moderator), Terry-k9tw(nice bench Terry!), and many others, that have made significant effort to make this group the place to go for keeping our Kenwood hybrids up-n-runnin' !
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>
> So.... on behalf of me, Joe-wb7uqu(your benevolent overlord), Mike-w5rkl(group moderator and my right hand man), Have a safe and fun Independence Day weekend.
>
> 73 Joe
> WB7UQU
>
>
>

49173. 830S filter compatibility?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-01 17:33:12 UTC
From: n612dw@...
Topic: 49173 Message: 49173

Hi Guys,
new to the group, have a question may have already been answered but I couldn't find it if so.

bought an 830 recently to fill out my collection of re-creating my early radio days. pristine condition, S/N 7xxxxxx very late production. Date codes on components are 8620 or later... so it was made I think in the last year of production or nearly so. a real gem.

did find a bandswitch coupler cracked as usual, fixed with new brass one, also replaced the screen and B+ hv caps with new better 105c ones just for grins.

First time I've worked on one of these, very nice construction/design, weakness seems to be the bandswitch.

Superior final cage design where cool air gets pulled up thru the suspended tube sockets up and around the tube from a sort of plenum underneath - better than most, almost like some amps with pressurized plenums like it's supposed to be ! Very happy so far.

Now onto the question at hand....

I want to add CW filters to it. I found the 8mc 500 hz filter and installed that but I am having issues with finding a 455C filter mate for it. There are tons of 455C-1's out there to get hold of, which begs the question....

does anyone know for sure if the 455C-1 will work IF I unsolder it from the plug-in "carrier" and install it in the 830 ???

concerned about physical pinout location and in/out impedances/load etc. My first order guesstimate would be that Kenwood probably just bought the same filters but mounted them on the plug-in carrier board for the later rigs????

best case is that it indeed is the same filter simply mounted in a plug-in carrier board, that I can unsolder and solder directly into and be pin-compatible with the open spot on the 830s.

I'm aware of the inrad filters but want to keep it all stock/OEM if possible.

whatsay yoose guys?

-bob

49174. Re: [TS-520_820_530_830] 830S filter compatibility?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-01 18:20:42 UTC
From: Joseph Stiles
Topic: 49173 Message: 49174

Bob(please remember to use call sign - if any- when posting)

The filters have SLIGHT differences in center freqs. The pins are the same...and as you stated, one is on a phenolic board...one is not.

You can go to: N6WK.com web site(yes..it's still up and running) and scroll down until you come to the "Kenwood filter spec sheet." I have not tried to interchange them...but a re-alignment of the band pass filter(s), IF trap or both... may be in order to accommodate the 0.7 change in the filters center freq.

N6WK - Gordon(SK) may now be gone...but his web site is still functioning. I do not know how...but maybe surviving family members paid for further web hosting...as it stopped shortly after him becoming SK...then came back up.

73 Joe
WB7UQU

On Tuesday, July 1, 2014 11:03 AM, "n612dw@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Hi Guys,
>new to the group, have a question may have already been answered but I couldn't find it if so.
>
>
>bought an 830 recently to fill out my collection of re-creating my early radio days. pristine condition, S/N 7xxxxxx very late production. Date codes on components are 8620 or later... so it was made I think in the last year of production or nearly so. a real gem.
>
>
>did find a bandswitch coupler cracked as usual, fixed with new brass one, also replaced the screen and B+ hv caps with new better 105c ones just for grins.
>
>
>First time I've worked on one of these, very nice construction/design, weakness seems to be the bandswitch.
>
>
>Superior final cage design where cool air gets pulled up thru the suspended tube sockets up and around the tube from a sort of plenum underneath - better than most, almost like some amps with pressurized plenums like it's supposed to be ! Very happy so far.
>
>

>Now onto the question at hand....
>
>
> I want to add CW filters to it. I found the 8mc 500 hz filter and installed that but I am having issues with finding a 455C filter mate for it. There are tons of 455C-1's out there to get hold of, which begs the question....
>
>
>does anyone know for sure if the 455C-1 will work IF I unsolder it from the plug-in "carrier" and install it in the 830 ???
>
>
>concerned about physical pinout location and in/out impedances/load etc. My first order guesstimate would be that Kenwood probably just bought the same filters but mounted them on the plug-in carrier board for the later rigs????
>
>
>best case is that it indeed is the same filter simply mounted in a plug-in carrier board, that I can unsolder and solder directly into and be pin-compatible with the open spot on the 830s.
>
>
>I'm aware of the inrad filters but want to keep it all stock/OEM if possible.
>
>
>whatsay yoose guys?
>
>
>-bob
>
>
>
>
>
>
>

49175. Re: [TS-520_820_530_830] 830S filter compatibility?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-01 18:36:41 UTC
From: n612dw@...
Topic: 49173 Message: 49175

tnx joe,

will check it out...

call is w9zv

wasn't aware of the .7 diff, will investigate.

-bob, w9zv

No problem Bob. 73 Joe wb7uqu

49176. Solid State Signal Generator

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-02 14:20:33 UTC
From: Mike W5RKL
Topic: 49176 Message: 49176

I came across this website this morning while drinking coffee and waking up.

http://www.dxzone.com/cgi-bin/dir/jump2.cgi?ID=27873

http://www.vintage-radio.com/projects/signal-generator.html

The power transformer shown in the signal generator's schematic has a primary voltage of 220VAC. Hammond Transformers could possibly provide a similar transformer with 117VAC primary winding with 16VAC CT secondary winding.

http://www.hammondmfg.com/pdf/5C08.pdf

The PC board could be designed and built using ExpressPCB.com PC board CAD software. I use ExpressPCB CAD software for all my PC board needs. It's easy to learn how to use and free on their website

http://expresspcb.com/ExpressPCBHtm/Free_cad_software.htm

I designed PC boards using ExpressPCB CAD software for the following projects I built:

1. LM741 OP AMP 2 stage audio filter (operates from 9VDC battery)

2. Heathkit SB-400 and SB-401 HV and LV power supply filter capacitor boards (replaced the two 125ufd 450VDC HV caps and the dual can LV cap)

3. Variable frequency 455Khz BFO (variable frequency between 453Khz and 456Khz, ideal for a USB, LSB, or CW fixed BFO circuit or as a 455Khz IF alignment signal source)

A cabinet to house the signal generator and digital display could easily be found on eBay. N3ZI sells a digital display which is easy to build (I built one and took me about an hour to build).

http://www.pongrance.com/ddfc-cc.html

An important note:
The N3ZI digital display has a maximum input voltage of 1.8V rms as stated in the digital display manual. The signal generator DXZone.com signal generator has a maximum output voltage of 3V rms which exceeds the N3ZI digital display input level. A resistive attenuator could easily reduce the generator's signal level voltage down to an acceptable level for the N3ZI digital display. There are plenty of attenuator circuits that can be built quite easily so try searching the web using the phrase

'resistive attenuator"

I'm going to look into building the generator as a fun project. I already have the N3ZI digital display. W8DIZ's webpage is a good source of cheap kits. I built the simple W8DIZ RF amplifier mentioned in N3ZI digital display webpage.

73
Mike W5RKL

--

49177. Message Signature Requirement!!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-02 14:28:36 UTC
From: Mike W5RKL
Topic: 49173 Message: 49177

Most email client software has the option to configure a "signature" that is automatically added to every message the write composes and sends. If you are using email client software then check the "Account Option" feature, it's quite possible you can configure your signature to be added "automatically" to every message you send!

I used Thunderbird email client software and it has this option! Thunderbird is free and easy to configure.

73
Mike W5RKL

49178. TS-820S Fan Question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-02 12:34:49 UTC
From: WQ8Q
Topic: 49178 Message: 49178

I picked up a TS-820S this week (boy, when the hybrid bug bites, it bites hard) and have a question about the fan.My TS-520 has a fan that, if you pardon the expression, really blows.The TS-820S fan seems a bit lackadaisical in comparison.I can barely hear it.So, I'm wondering if this is normal?(Yeah, I really lubed the fan well). Did Kenwood quiet the fan down a bit for the 820?

73 de Rick WQ8Q

49179. Re: [TS-520_820_530_830] TS-820S Fan Question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-02 17:37:38 UTC
From: Joseph Stiles
Topic: 49178 Message: 49179

Rick,

All of the Kenwood hybrid fans operate on a 100V tap from the power transformer, check schematic. If I remember correctly...the motor itself is wound for 115v...thus a slower fan speed when operating off 100v. I would check the voltage...I have not ever seen a problem like that, UNLESS someone has done some rewiring..or changed the fan to a 12V "computer type" fan and took a supply tap from elsewhere on the rig. The fans tend to be rather quiet..so the owner/op doesn't complain about "fan noise." The fans are adequate for their intended purpose, but extended transmission at nominal power creates lot of heat from these finals. If all else is good...let it go...and as you said: it's lubed up. Many operators/owners do not do this. It only takes a few minutes once, or possibly twice a year to use a FEW drops of a good light weight oil on the "felts."

73 Joe
WB7UQU

On Wednesday, July 2, 2014 10:17 AM, "WQ8Q wq8q@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>I picked up a TS-820S this week (boy, when the hybrid bug bites, it bites hard) and have a question about the fan. My TS-520 has a fan that, if you pardon the expression, really blows. The TS-820S fan seems a bit lackadaisical in comparison. I can barely hear it. So, I'm wondering if this is normal? (Yeah, I really lubed the fan well). Did Kenwood quiet the fan down a bit for the 820?
>
>73 de Rick WQ8Q
>
>
>

49180. Re: [TS-520_820_530_830] Solid State Signal Generator

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-02 18:01:10 UTC
From: Mike W5RKL
Topic: 49176 Message: 49180

Update on parts for the signal generator project:

There's a Canadian eBay seller who is selling the dual 365pf variable capacitor for $19.95 plus $4 shipping.

The dual 365pf variable capacitor, mounting bracket, planetary drive (highly recommended), and screw hardware can be obtained from Midnight Science website. I recommend the capacitor and planetary drive mounting bracket for smooth tuning of the generator.

http://www.midnightscience.com/catalog5.html#part2

Futurlec

https://www.futurlec.com/Transistors/BF244Apr.shtml

appears to have and sells the BF244A British transistor used as TR1 for 35 cents each.

Mouser appears to have the BC548 transistor used as TR2 thru TR5 under part number 512-BC548BU for 22 cents each.

I'm still looking for the rotary switch, probably find one on eBay or allelectronics.com.

Fixed resistors and capacitors, disc and electrolytic, can be ordered from Mouser.

Mouser sells the 78L15 regulator (100ma current rating) under P/N 511-L78L15ABZ-AP for 51 cents each in a TO92 package.
Data sheet:
http://www.st.com/web/en/resource/technical/document/datasheet/CD00000446.pdf

Mouser also sells the higher current rated 15 volt regulator under part number 511-L7815ABV-DG in a TO-220 case for 69 cents each.
Data sheet:
http://www.st.com/web/en/resource/technical/document/datasheet/CD00000444.pdf

73
Mike W5RKL

On 7/2/2014 9:20 AM, Mike W5RKL w5rkl@... [TS-520_820_530_830] wrote:
>
> I came across this website this morning while drinking coffee and
> waking up.
>
> http://www.dxzone.com/cgi-bin/dir/jump2.cgi?ID=27873
>

> http://www.vintage-radio.com/projects/signal-generator.html
>
> The power transformer shown in the signal generator's schematic has a
> primary voltage of 220VAC. Hammond Transformers could possibly provide
> a similar transformer with 117VAC primary winding with 16VAC CT
> secondary winding.
>
> http://www.hammondmfg.com/pdf/5C08.pdf
>
> The PC board could be designed and built using ExpressPCB.com PC board
> CAD software. I use ExpressPCB CAD software for all my PC board needs.
> It's easy to learn how to use and free on their website
>
> http://expresspcb.com/ExpressPCBHtm/Free_cad_software.htm
>
> I designed PC boards using ExpressPCB CAD software for the following
> projects I built:
>
> 1. LM741 OP AMP 2 stage audio filter (operates from 9VDC battery)
>
> 2. Heathkit SB-400 and SB-401 HV and LV power supply filter capacitor
> boards (replaced the two 125ufd 450VDC HV caps and the dual can LV cap)
>
> 3. Variable frequency 455Khz BFO (variable frequency between 453Khz
> and 456Khz, ideal for a USB, LSB, or CW fixed BFO circuit or as a
> 455Khz IF alignment signal source)
>
> A cabinet to house the signal generator and digital display could
> easily be found on eBay. N3ZI sells a digital display which is easy to
> build (I built one and took me about an hour to build).
>
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>
> An important note:
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> signal generator has a maximum output voltage of 3V rms which exceeds
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> easily reduce the generator's signal level voltage down to an
> acceptable level for the N3ZI digital display. There are plenty of
> attenuator circuits that can be built quite easily so try searching
> the web using the phrase
>
> 'resistive attenuator"
>
> I'm going to look into building the generator as a fun project. I
> already have the N3ZI digital display. W8DIZ's webpage is a good
> source of cheap kits. I built the simple W8DIZ RF amplifier mentioned
> in N3ZI digital display webpage.
>

> 73
> Mike W5RKL
>
> --
>
>

49181. JIS Screwdrivers – why I've switched

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-02 20:51:27 UTC
From: WQ8Q
Topic: 49181 Message: 49181

I've recently switched to using JIS (Japan Industrial Standard) screwdrivers for just about everything.I got tired of boogered-up case screws and recently acquired a Kenwood TS-440 with screwheads so deformed that it was hard to remove them – resulting in replacing the whole set.There are basically easily acquired sets from two manufacturers, Hozan and Vessel.The Vessel Ball screwdrivers are magnetic and do a great job of keeping screws from falling into a radio.The #2 fits the case screws of the Kenwood Hybrids and the #1 fits the circuit board screws.The Hozan are fine, too, and can be used when you don't want a mag screwdriver.The Vessel kit I have came with a couple of slotted screwdrivers also, which I thought I wouldn't use, but found that one of them fits the knob screws on my TS-820S perfectly.

These screwdrivers will fit ALL phillips screws and will NOT cam out like regular phillips screwdrivers, which are designed to cam out as to not overtighten the screws.

Okay, they're not cheap, but hey, it's a hobby and you're supposed to spend money!

73 de Rick, WQ8Q

49182. Re: TS-820S Fan Question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-02 21:38:53 UTC
From: clifford wright
Topic: 49178 Message: 49182

Quite right. The ts 820s fan is really inadequate.
With mine I replaced the original with a 12 volt computer fan run of the
12 volts AC heater rail through a simple rectifier system. Works far
better and my 6146B finals are a lot less stressed. BTW I have also done
some work on the final tank circuit to improve working Q and improve
efficiency. That helps too decreasing
plate dissappation by at least 10 watts.
ZL1BDA

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49183. Re: TS-820S Fan Question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-03 04:45:10 UTC
From: paul.nussbaum@...
Topic: 49178 Message: 49183

The 6146B data sheet states,

"To insure adequate cooling, it is essential that free circulation of air be provided around the tube. In most cases, no additional air is required."

"In most cases" is a clever pun intended?

The "Dark Heaters" of the 6146B operate cooler at 1350 degrees Kelvin, 350 degrees lower than conventional tube types. The "weak" fan may have been a design consideration - to minimize noise or the accumulation of dust inside the case, since the fan is barely needed for cooling?

If you spin the un-powered fan with your finger or watch it spin down at power off... if it free-wheels for a few seconds it is fine; if it comes to an abrupt stop it needs oil. The oil hole on top of each bearing housing is very small... one way to get a drop of oil inside is to use a thin strand of wire as a slide guide for the oil drop.

Paul
AD5FT

49184. Re: TS-820S Fan Question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-03 05:51:45 UTC
From: James Scribner
Topic: 49178 Message: 49184

Ignored 1st post but...I feel a discussion coming on. I shall just add that I have run my own TS- 820 for well over 2yrs, 24-7, meaning rarely w/heater off and power is always on. When I do broadcast I have been known to be somewhat long winded! hihi Never a problem with 6146B's or driver in the period and still over 100w all bands but 10m which is about 90-95w. I ran a TS-820S in the 80's same way with never a problem. Really feel my TS-430S is the one with a fan problem! (Slower to come on than I prefer for a transistor rig) No need to brag...they are Kenwoods!
73
W5SWM-Jim

49185. Re: [TS-520_820_530_830] Re: TS-820S Fan Question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-03 06:01:59 UTC
From: Wes Will
Topic: 49178 Message: 49185

> one way to get a drop of oil inside is to use a thin strand of wire

Or you can stop by your local farm supply place and get a hypodermic syringe and a package of needles (smaller the better, I usually get a 16 gauge needle, works well for most things. Fill the syringe with oil, apply micro-drops where needed. Pin-point precision, really small droplets. It also works for applying minuscule amounts of lubrication on firearms. You only want a tiny bit anyway, to keep dust and gunpowder residues from sticking to the oil and jamming the action.

You might think your local diabetic can provide something useful, but the needles and syringes they use have a tiny, teensy, itty-bitty needle and a plastic syringe; those are MUCH too small for all but the tiniest jobs, and generally the all-plastic syringe isn't petroleum-friendly so the oil will dissolve the seals and melt the whole thing into a real mess.

The syringe I got from the farm supply vet gear aisle has a glass cylinder inside a steel cylinder with a ground-glass fitted plunger. The steel cylinder wraps around the glass parts, which protects it from hooves and being drop-kicked while trying to stab a bull in the butt with an antibiotic or something. Not plastic, and not fragile either. Needles unscrew and can be replaced in seconds, so if you break one off it's no big deal.

This was NOT CHEAP, but mine is almost ten years old now and has been worth the twelve bucks, particularly since I'll never need another one. It should last for a lifetime if I don't get stupid and lose it somewhere.

--
Wes Will
N9KDY

49186. Re: [TS-520_820_530_830] Re: TS-820S Fan Question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-03 10:11:57 UTC
From: CROOKS David
Topic: 49178 Message: 49186

Wes,
3M make a 12ml oil pen for precision use. Costs peanuts. Lasts forever.
Dave

49187. Re: TS-820S Fan Question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-03 05:20:32 UTC
From: clifford wright
Topic: 49178 Message: 49187

Well I'm sorry to have to say that my temperature measurements don't support Paul's thesis at all.
The TS820S tends to run too hot in the final in anything like high power. That combined with the rather inadequate Q of the final tank circuit on some bands can put a lot of stress on the finals.
Certainly mine now runs about 15 degrees C cooler on the outer case with a better fan and tuned circuit
adjustments, and better air circulation and I haven't lost a final for some time.
When I first inspected my fan, I was quite dismayed by its inadequate design on what is basically a good rig.
Running it at 100 volts AC instead of a designed 115 just makes matters worse.
IMO it is a very easy and worthwhile mod.
ZL1BDA

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http://www.avast.com

49188. Re: [TS-520_820_530_830] Re: TS-820S Fan Question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-03 12:01:40 UTC
From: Wes Will
Topic: 49178 Message: 49188

On 07/03/2014 05:11 AM, 'CROOKS David' dave.crooks@...
[TS-520_820_530_830] wrote:
> Wes,
> 3M make a 12ml oil pen for precision use. Costs peanuts. Lasts forever.
> Dave
>

Can you refill it? Or use it to flush parts with solvents instead of oil? Or replace the tip/tube if it gets bent or pinched? Or change from petroleum-based oil to synthetic and back? Or even to a powdered fluid (teflon and graphite) and back to machine oil (after a good cleaning of course)?

If all you need is one sort of oil, that 3M oiler might be a good bet. I won't say a thing against it for that purpose.

But ten or so years down the line I've used my vet syringe and hypodermic needles (actually biopsy blunts when I can get them - no sharp bevel on the end) for all of those things. In particular, being able to shoot a controlled stream of penetrating solvent into a crevice of a piece of machinery (an old time-clock is one item I can remember specifically) can be a real big help.

--
Wes Will
N9KDY

49189. Re: TS-820S Fan Question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-03 22:08:51 UTC
From: n612dw@...
Topic: 49178 Message: 49189

you might want to look at this for an oiler

http://www.precisionoilerplus.com/ http://www.precisionoilerplus.com/

pretty cheap, will last an oz will last you a century.

-bob, w9zv

49190. 830S LSB Receive Issue - VBT

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-04 02:40:21 UTC
From: jblbusa@...
Topic: 49190 Message: 49190

I turned on my 830 after a few months of not using it.

In LSB mode I have some strange behavior and would appreciate advice on what to look into.

LSB audio is overall very low to almost non-existent on multiple bands.

When a move either the IF Shift or the VBT knobs to the right half (from 12 o'clock to 5 o'clock) of the knob position, I loose all LSB audio and the frequency counter goes out. If I turn the VBT back to the left (12 o'clock to 7o'clock) the frequency counter comes back on and audio is back but still low.

Also, if I turn the send switch on the frequency counter goes off.

USB and CW seems find. LSB was working find 2-3 months ago.

Best,
W0HY
Jeff

49191. Took to Field Day and no output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-04 02:53:25 UTC
From: stg57@...
Topic: 49191 Message: 49191

I packed up my TS-520S to take out to Field Day, it sat in the car all morning while the Club did Public Service with the yearly Bike Race that takes place on Field Day.
So got the rig set up, antenna strung, tuner set with the MFJ analyzer.

Had a few helping hands switching bands and adjusting knobs, after I had it tuned up on 80mtr.

Receive is fine.

Plate Idling current Check - 60ma

Drive Tuning Check - Maximum Deflection

HV Check - 800V in Tune

Plate Tuning Fail - Low needle reading, no dip

Plate and Load Tune - Low needle reading no reaction

Currently less than 20 Watts out shown on the tuner watt meter.

History I have owned the Rig for a number of years, tubes 6146W, regular yet limited use following tune instructions.

All but C15 & 16 of the power supply caps have been replaced with Ken's kit.

PA resistors changed with Ken's kit after purchase, originals looked Krispy.

PA Cage kit on hand, never installed since rig was working fine.

I follow the group loosely and some of the repair tips that are wrote about. I have pulled the case, tubes physically look OK, resistors on PA board look as new, did not check them with the VTVM yet.

Which components should I start checking first? I don't want to start taking things loose and make it worse than it currently is.

Once I have Power back, next step is to clean the wipers in the VFO, as the external one works fine, the internal one is getting spotty where it works or doesn't.

Thanks

WS4JH James

49192. Re: 830S LSB Receive Issue - VBT

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-04 16:04:59 UTC
From: wagstw46@...
Topic: 49190 Message: 49192

Jeff:

Just for grins place the IF shift at 1200 and VBT full CW. Then try adjusting LSB trimmer capacitor TC-2 (you can access it thru hole provided in the bottom cover). Run it back and forth a few times to clean it and then adjust. You can shine flashlite thru the hole for TC-3 so you can see to get adjustment tool blade in TC-2 slot.

Absent a freq counter and with covers on you can set TC-2 relatively close by placing the AGC in Fast position and turning on the Marker and peaking it with the VFO and Drive control and then adjusting TC-2 for zero beat (slow rythmic motion of the S-meter indicator) around S3 to S5.

If this resolves problem I would remove covers and clean both ceramic trimmer caps on the PLL board with Deoxit and then adjust depending on what test gear you have.

1. Set by ear (helps if you have familiar voice in Rx mode or can use own voice and Moni function)
2. Set using the S-meter-Marker-Zero Beat Method
3. Set by injecting audio into mic line and adjust for 3dB roll off on external wattmeter
4. Set by using audio spectrum analyzer software and noise bridge

Method 3 and 4 are best methods to employ

If cleaning and adjusting TC-2 doesnt fix then for starters measure Carrier Osc frequency and level at IF board TP-3. Need freq counter and rf millivolt meter or O-scope.

Happy 4th

Terry K9TW

49193. Ken's Kit?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-04 17:48:15 UTC
From: Richard AG5M
Topic: 49191 Message: 49193

I'm new to the Kenwood TS-520S having recently acquired one. What is a "Ken's Kit?" Tnx, Richard AG5M

On Thu, 7/3/14, stg57@... [TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com> wrote:

All but C15 & 16 of the power supply caps have been replaced with Ken's kit.
PA resistors changed with Ken's kit after purchase, originals looked Krispy.
Thanks
WS4JH James

49194. Re: Ken's Kit?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-04 18:56:34 UTC
From: w5rkl@...
Topic: 49191 Message: 49194

Ken, K4EAA, sells a few replacement components on his website (see link to Ken's website below for further details)

Kenwood Amateur Radio Hybrid Pages http://www.k4eaa.com

http://www.k4eaa.com

Kenwood Amateur Radio Hybrid Pages http://www.k4eaa.com Kenwood hybrid restoration service repair TS-520 TS-520D TS-520S TS-530 TS-530S TS-820 TS-820S TS-830 TS-830S finals 6146B driver 12BY7A al...

View on www.k4eaa.com http://www.k4eaa.com
Preview by Yahoo

Use common sense when replacing components Don't jump to conclusions that you need to replace a component simply because it's old!

73
Mike W5RKL

49195. Re: [TS-520_820_530_830] Ken's Kit?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-04 18:53:16 UTC
From: W LEWIS
Topic: 49191 Message: 49195

Look up K4EAA.com and you'll see. LOTS of great info and parts.
73,
Butch Lewis
KØPSA

On Friday, July 4, 2014 1:47 PM, "Richard AG5M ag5m@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

I'm new to the Kenwood TS-520S having recently acquired one. What is a "Ken's Kit?" Tnx, Richard AG5M

On Thu, 7/3/14, stg57@... [TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com> wrote:

All but C15 & 16 of the power supply caps have been replaced with Ken's kit.
PA resistors changed with Ken's kit after purchase, originals looked Krispy.
Thanks
WS4JH James

49196. RE: [TS-520_820_530_830] My TS-830 is Always 1Hhz off

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-05 04:33:27 UTC
From: Kevin, Natalia, Stacey and Rochelle
Topic: 49065 Message: 49196

Hi Joe,

Yes I have a freq counter, so I will go through the information and see how I get on.

Thanks to yourself and other for the replies.

Regards

Kevin, ZL1KFM.

From: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com]
Sent: Monday, 23 June 2014 09:29
To: TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830] My TS-830 is Always 1Hhz off

Kevin,

Do you have, or can you borrow a frequency counter? If so, check the VFO adjustment on Pg 34 of the Service Manual. This is what Terry-k9tw was talking about...the 50 and 450 tracking. These "adjustments" are made through the TOP of the VFO under the silver tape. See Pg 42 of Service Manual for location. It makes it easier if you remove the 4 "allen or hex" screws holding the VFO in and slowly & GENTLY remove it...There is usually enough slack in the connections to get full access...just be careful when putting it back in...no pinched wires!

73 Joe
WB7UQU

On Saturday, June 21, 2014 7:16 AM, "wagstw46@... [TS-520_820_530_830] <mailto:wagstw46@...%20[TS-520_820_530_830]> " <TS-520_820_530_830@yahoogroups.com> wrote:

There is another way to to it today.

Back in the day we needed a crystal calibrator and an international time and frequency station such as WWV or CHU but today not so much. Even with WWV it still requires good propagation to use them in order to hear the zero beat and the closer you get to zero beat the lower the audio level and the human ear frequency response rolls off.

If you have trouble with the zero beat method can try using the the SSB switching method by flipping back and forth between LSB and USB until the 600hz tone that is transmitted on alternate minutes sounds like the same frequency. Easier for the ear to differentiate this than true zero beat.

Today with all the modern DSP rigs on the ham bands that are dead on frequency and so many strong Net operations like 14.300 maritime mobile or Midcars 7.258 and Ecars 7.255 you can just simply tune on the Net of choice and tune for a natural voice and then adjust 10 mhz counter reference trimmer cap TC-1 until the digital display reads same as the Net frequency. Can get very close this way. Of course this assumes that your VFO has been

calibrated to track at 50 and 450.

Lastly, if you have a close friend whose natural voice you are familiar with and he has an unmolested modern rig you could also have a QSO and adjust the trimmer on his transmission.

I am assuming there must be some popular strong copy Nets in New Zealand that could be used. If not, then as Dave suggests you will need to use WWV or a calibrated frequency counter.

Terry K9TW

49197. Re: Took to Field Day and no output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-05 13:11:47 UTC
From: wagstw46@...
Topic: 49191 Message: 49197

"1. Plate Tuning Fail - Low needle reading, no dip"

"2. Plate and Load Tune - Low needle reading no reaction"

1. Are you saying after peaking the Drive in Tune mode you cannot get the initial plate current dip in Tune mode? If so, where do you have the Plate Load cap set at? Set it so the plates are closed ie fully meshed. This will give you the most discernable Ip dip to adjust the Tank to resonance. If you get no Ip dip then try it in CW mode. Dont leave it key down very long. You may have a problem with the Screen Grid voltage divider resistors.

2, Are you saying with radio in CW mode and panel meter in RF position when you flip to Send and alternately adjust the Plate Load and Plate Tune caps you get no or very low peak in RF relative power? If so, perhaps someone adjusted the RF voltage sensitivity pot accessed thru the side panel. Try adjusting the sensitivity pot for more deflection. 2/3 to 3/4 deflection is good spot to work with.

If you can load the rig in CW mode then will need to measure R5 and R6 56k ohm resistors on the HV Unit board. If one is bad replace both.

Terry K9TW

49198. TS-820 taking out the 12by7

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-05 15:35:47 UTC
From: gunslingerbob@...
Topic: 49198 Message: 49198

Write a message...
I have a 820s which all of the electrostatics have been replaced and the finals were neutralized. The radio was working fantastic with great reports. So far the problem is the radio likes to chew up the 12by7 tubes. It is on the bench again with a flat 12by7a qnde it also took out one of the 6146b tubes. I did replace the two cathode
resistors, 10 ohm 1 watt. They looked as they got a little hot. During tune up the bias is kept to 60 ma.
Any ideas where to look for this issue.
Robert.

49199. Re: [TS-520_820_530_830] TS-820 taking out the 12by7

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-05 21:34:01 UTC
From: Mike W5RKL
Topic: 49198 Message: 49199

Robert,

The TS-820 bias should be set to 60ma with the MODE switch set to USB or LSB, it doesn't matter which band because RF is does not play a part in setting the 60ma idling current. Once that is set you should not have to touch the bias pot again unless you replace the final tubes.

You can download the TS-820 high resolution schematic which contains voltages. This will help you compare the voltage in your TS-820 with the schematic voltage. The schematic can be downloaded at my website:

http://w5rkl.com/manuals-and-documents/

Scroll down and click on the high resolution link, the file will download to your computer in pdf format.

It appears from your comments that you replaced "every electrolytic" in your 820 whether the capacitor was found bad or not. That is what is referred to as "shot gun" component replacement which can easily lead to more problems then the 820 initially had. Components should be replaced only if they have been found to have failed through troubleshooting not simply because the component is old.

I doubt the 12BY7 driver tube took out one of your 6146 final tubes. I suspect the 6146 was defective on its own.

Since you said the final amplifier cathode resistors appeared to be burnt then I suspect the bad 6146 had an arc that occurred between the 6146 plate and beam forming element. I have a few videos on my website that discuss this. Click on the below link and go to the bottom of the page. The videos are in "wmv" (Windows Movie Video) format and will play on all versions of Windows without any problems.

http://w5rkl.com/basic-electronic-videos-2/

73
Mike W5RKL

On 7/5/2014 10:35 AM, gunslingerbob@... [TS-520_820_530_830] wrote:
>
> Write a message...
> I have a 820s which all of the electrostatics have been replaced and
> the finals were neutralized. The radio was working fantastic with
> great reports. So far the problem is the radio likes to chew up the
> 12by7 tubes. It is on the bench again with a flat 12by7a qnde it also
> took out one of the 6146b tubes. I did replace the two cathode
> resistors, 10 ohm 1 watt. They looked as they got a little hot. During

> tune up the bias is kept to 60 ma.
> Any ideas where to look for this issue.
> Robert.
>
>

49200. Re: [TS-520_820_530_830] TS-820 taking out the 12by7

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-05 21:35:38 UTC
From: Mike W5RKL
Topic: 49198 Message: 49200

My suggestion is to replace both of the 6146 final tubes along with the driver tube, neutralize the finals, and providing there are no other problems in your 820, that should fix your problem.

73
Mike W5RKL

On 7/5/2014 10:35 AM, gunslingerbob@... [TS-520_820_530_830] wrote:
>
> Write a message...
> I have a 820s which all of the electrostatics have been replaced and
> the finals were neutralized. The radio was working fantastic with
> great reports. So far the problem is the radio likes to chew up the
> 12by7 tubes. It is on the bench again with a flat 12by7a qnde it also
> took out one of the 6146b tubes. I did replace the two cathode
> resistors, 10 ohm 1 watt. They looked as they got a little hot. During
> tune up the bias is kept to 60 ma.
> Any ideas where to look for this issue.
> Robert.
>
>

49201. Re: [TS-520_820_530_830] TS-820 taking out the 12by7

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-05 21:45:27 UTC
From: Mike W5RKL
Topic: 49198 Message: 49201

Also, check and if necessary, set the bias in USB or LSB on any band to
ensure it's at 60ma.

73
Mike W5RKL

On 7/5/2014 4:35 PM, Mike W5RKL w5rkl@... [TS-520_820_530_830] wrote:
>
> My suggestion is to replace both of the 6146 final tubes along with
> the driver tube, neutralize the finals, and providing there are no
> other problems in your 820, that should fix your problem.
>
> 73
> Mike W5RKL
>
> On 7/5/2014 10:35 AM, gunslingerbob@... [TS-520_820_530_830]
> wrote:
>>
>> Write a message...
>> I have a 820s which all of the electrostatics have been replaced and
>> the finals were neutralized. The radio was working fantastic with
>> great reports. So far the problem is the radio likes to chew up the
>> 12by7 tubes. It is on the bench again with a flat 12by7a qnde it also
>> took out one of the 6146b tubes. I did replace the two cathode
>> resistors, 10 ohm 1 watt. They looked as they got a little hot.
>> During tune up the bias is kept to 60 ma.
>> Any ideas where to look for this issue.
>> Robert.
>>
>
>

49202. Re: [TS-520_820_530_830] TS-820 taking out the 12by7

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-05 22:05:38 UTC
From: wagstw46@...
Topic: 49198 Message: 49202

Mike

If he is eating Driver tubes he may want to measure all the 12BY7A tube socket voltages especially screen grid voltages.

I agree with you that the Driver tube didnt hurt the Finals.

About only way for the Driver tube plate circuit to hurt the Finals would be for both inter-stage caps (blocking and coupling) to go leaky and that just doesnt happen unlike some rigs that only use one coupling cap and the control grids see plate voltage. As you know they wouldnt like that! I have never seen it in a KW hybrid.

Terry K9TW

49203. Re: TS-820 taking out the 12by7

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-05 23:10:20 UTC
From: gunslingerbob@...
Topic: 49198 Message: 49203

Thanks for the info on the radio. Shotgun the cap, Maybe but why change out just a couple and have the few more cause trouble down the road later. While I am in there why not, given there age. Just my opinion.
This is the third 12by7a tube it has gone through so something is up. Mike you have a great information site and I will be watching all of the videos for sure. BTW one of the 10 ohm 1 watt resistors had a crack in it so that is why I changed both. What would happen if I set the bias to 50 ma or 55 ma, would that make any difference in the operation. I don't want to give the radio back to the owner and have the same problem.
Mike; You be I am going to measure the voltages. There must be a commonality to the issue. The radios I usually work on are from the 20s and 30s and you be the caps get changed or face the smoke genie coming out of the box.

49204. Re: [TS-520_820_530_830] Re: TS-820 taking out the 12by7

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-06 03:38:16 UTC
From: gordon@...
Topic: 49198 Message: 49204

On Sat, Jul 05, 2014 at 04:10:20PM -0700, gunslingerbob@... [TS-520_820_530_830] wrote:
> Thanks for the info on the radio. Shotgun the cap, Maybe but why change out just a couple and have the few more cause trouble down the road later. While I am in there why not, given there age. Just my opinion.

Because they're unlikely to be faulty. In close to 30 years of working on all sorts of electronic equipment I've changed maybe half a dozen genuinely faulty electrolytics. I know it's currently fashionable to go "OMG ZOMG MUST RECAP BECAUSE ELECTROLYTICS ZOMG" but they just plain do not fail that often.

Cheap shitty switched-mode PSUs are another matter. Poorly-specified capacitors with high ESR will fail when exposed to the stresses in poorly-designed SMPSUs. Guess what? Your Trio hybrid does not have a switched-mode PSU of any sort, never mind a cheap shitty one. There are very few aspects of these old rigs that could be described as cheap and shitty.

The more you fiddle about with the guts of a piece of equipment, the more likely it is you'll do more harm than good. I've had to scrap a couple of lovely old synthesizers (of the music rather than RF variety) because they've been "recapped" and then brought along to me to get fixed because they've just not run right since. Once they've been chopped about like that, there's no telling what mayhem has been caused elsewhere.

Quick question - was it cooking the driver valve *before* you "recapped" it? Was it misbehaving in any other way? Bet you wish you'd left it alone...

--
Gordonjcp MM0YEQ

49205. Re: [TS-520_820_530_830] Re: TS-820 taking out the 12by7

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-06 09:14:31 UTC
From: CROOKS David
Topic: 49198 Message: 49205

Moderators,
Please stop the swearing.
Thanks
Dave f4eyk

49206. Re: [TS-520_820_530_830] Re: TS-820 taking out the 12by7

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-06 11:13:16 UTC
From: Wes Will
Topic: 49198 Message: 49206

On 07/06/2014 04:14 AM, 'CROOKS David' dave.crooks@...
[TS-520_820_530_830] wrote:
> Moderators,
> Please stop the swearing.
> Thanks
> Dave f4eyk

Concur, please clean up a bit guys.

You wouldn't talk like this on the air, would you?

I use this list for a reference for my 4-H group. (It is forming slowly, we'll see how well it does and how many kids sign on once school starts!)

I can't use the list for that purpose if I can't be sure there won't be a load of S- this and F- that in there. Please, consider this for a moment.

I'd be much obliged if y'all would tidy up the vocabulary -just- a bit, ok??

--
Wes Will
SysAdmin
N9KDY

49207. RE: [TS-520_820_530_830] Re: TS-820 taking out the 12by7

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-06 11:58:01 UTC
From: Robert Port
Topic: 49198 Message: 49207

Dead rig, Someone has been drinking when writing this. Nuff on this subject, ask a question and the nut cases come out.

Moderator's note:
Robert, you need to add a signature at the end of all of your messages. This is required as stated in the messages sent to you when your application for membership was approved.

73
Mike W5RKL
Yahoo Kenwood TS_520_820_530_830 Moderator

49208. Re: [TS-520_820_530_830] Re: TS-820 taking out the 12by7

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-06 13:34:31 UTC
From: Gerald Purvis
Topic: 49198 Message: 49208

It has been my experience ,although some limited, If it ain't broke don't fix it..

Vic Purvis
NB4T

49209. Swearing

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-06 14:23:03 UTC
From: Mike W5RKL
Topic: 49209 Message: 49209

To all members,

Swearing on this group, in any form, will NOT be tolerated!! Swearing and using curse words may be accepted on other groups/forums, regardless how slight those words may be, but NOT on this group!! This includes modifying a word using characters such as "$" as a substitute for "S", abbreviations of swear words such as using the first letter of each swear word, and any/all other forms of swearing. If you can't respond without swearing then don't respond at all, it's that simple!!

73
Mike W5RKL
Yahoo Kenwood TS_520_820_530_830 Moderator

--

49210. Adding Message Signature

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-06 14:59:23 UTC
From: Mike W5RKL
Topic: 49210 Message: 49210

To ALL members!!

There still appears to be some members, for what ever reason, who still don't get or have not gotten the message about adding a message signature at the end of their messages!! This is NOT because they were not told!!

Every person who applies for membership to this group and their applications is approved, that person is sent a couple of messages to the e-mail address they provided in their application for membership, that states this group's policies and rules. Therefore, there is absolutely no excuse for any approved member to not know what the group's policies and rules are!!

It takes less than 5 seconds to add a message signature to a member's messages before the message is sent!!

We have also informed everyone who uses an e-mail client software package such as Thunderbird, that the user can create a message signature that will automatically be applied to the message they send. All that's required is to edit the "Account Settings" and indicate the message signature you would like.

Message signature cannot be "screen names" used on other website such as "Gigawatt243" or "Ibeaham" or even an "email addresses" that contain your name. An acceptable message signature is as follows:

1. Licensed hams:
your first name followed by your ham call sign or if you don't care to use your call then just your first name

2. Non-licensed hams
your first name

73
Mike W5RKL
Yahoo Kenwood TS_520_820_530_830 Group Moderator

--

49211. Re: [TS-520_820_530_830] Re: TS-820 taking out the 12by7

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-06 15:30:03 UTC
From: gordon@...
Topic: 49198 Message: 49211

On Sun, Jul 06, 2014 at 06:34:31AM -0700, Gerald Purvis gvpurvis@... [TS-520_820_530_830] wrote:
> It has been my experience ,although some limited, If it ain't broke don't fix it..
>
> Vic Purvis
> NB4T

Exactly. Unfortunately, the Golden Screwdriver Brigade see electrolyics and freak out and we're back to ZOMG MUST RECAP - and then they wonder why it's just not working right...

--
Gordonjcp MM0YEQ

49212. Re: [TS-520_820_530_830] Adding Message Signature

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-06 17:02:14 UTC
From: John Davidson
Topic: 49210 Message: 49212

I went thru the Yahoo mail settings and found no provision for adding a fixed signature.
I have one on QRZ.com forums.
So if I am trying to avoid being the anonomus poster,
(no name, no call, no QTH)
I will manually add;
73, K8JD, John
Commerce, MI

On Sunday, July 6, 2014 10:59 AM, "Mike W5RKL w5rkl@... [TS-520_820_530_830]"
<TS-520_820_530_830@yahoogroups.com> wrote:

To ALL members!!

There still appears to be some members, for what ever reason, who
still don't get or have not gotten the message about adding a
message signature at the end of their messages!! This is NOT because
they were not told!!

Every person who applies for membership to this group and their
applications is approved, that person is sent a couple of messages
to the e-mail address they provided in their application for
membership, that states this group's policies and rules.
Therefore, there is absolutely no excuse for any approved member
to not know what the group's policies and rules are!!

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such as "Gigawatt243" or "Ibeaham" or even an "email addresses"
that contain your name. An acceptable message signature is as
follows:

1. Licensed hams:
your first name followed by your ham call sign or if you don't
care to use your call then just your first name

2. Non-licensed hams
your first name

73
Mike W5RKL
Yahoo Kenwood TS_520_820_530_830 Group Moderator

--

49213. Re: [TS-520_820_530_830] Adding Message Signature

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-06 17:32:35 UTC
From: Mike W5RKL
Topic: 49210 Message: 49213

Yep, manually adding a signature is perfectly okay John.

73
Mike W5RKL

On 7/6/2014 12:02 PM, John Davidson k8jd@... [TS-520_820_530_830]
wrote:
> I went thru the Yahoo mail settings and found no provision for adding
> a fixed signature.
> I have one on QRZ.com forums.
> So if I am trying to avoid being the anonomus poster,
> (no name, no call, no QTH)
> I will manually add;
> 73, K8JD, John
> Commerce, MI
>

49214. RE: [TS-520_820_530_830] Re: TS-820 taking out the 12by7

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-06 17:50:07 UTC
From: Robert Port
Topic: 49198 Message: 49214

Wow I must have not explained myself enough to the group. Here I go again so there will be some understanding.
The radio was recapped due to the main smoothing caps. One was open and the other was way out of spec. As I looked the radio over with a fine tooth comb and magnifying glasses I had found about 8 small electrolytic cap in various places on the pc cards had bulged out to the point of losing the rubber seal on the bottom. This was clearly seen and the caps were removed, tested and replaced. Since I was into the radio, all high voltage cap were replaced. Time, voltage, temp all play a factor in my decision on the replacement. I have had to many times where I had only replaced the bad caps in the high voltage areas, power supplies, and the equipment came back and I had to replace all of the rest of the caps. When it comes to a 2 dollar cap verse a
20 dollar tube or a 100 dollar transformer I tend to err on the side of caution. Sorry for the confusion. The radio is back on the air and this is what I had found and I could be wrong. The 12by7a tube was totally flat and one 6146b was flat. The two cathode resistors were replaced because of a crack in one of them so the two were replaced. Installed two new RCA 6146b tubes and the driver. I did check all of the voltages at the driver tube and all is good. I did check the setting for the bias and it was set to 150 ma. I set this back to 60 ma and tuned up the radio on 21.300. Set up my scope and neutralized the finals. The radio seems to be doing ok now. The owner turns on the radio and leaved it on for months at a time and I don’t think he checks the settings or retunes the radio. If anyone has any other ideas I am all ears but do keep the comments civil.
Robert
KE7KPB.

Moderator's Note:
Message was edited for unnecessary content, shorten the length of the message.

73
Mike W5RKL
Moderator

49215. Re: [TS-520_820_530_830] Re: TS-820 taking out the 12by7

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-06 19:10:09 UTC
From: Gerald
Topic: 49198 Message: 49215

A question for the group?
Does the TS 530S need to have the remote plug like the 520,520s etc. The manual is not clear.It shows the external VFO line and the remote output going to an amplifier.

Thanks
Vic
NB4T

You know why there's a 2nd Amendment ? In case the government fails to follow the 1st Amendment ...

49216. Re: [TS-520_820_530_830] Re: TS-820 taking out the 12by7

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-06 19:30:54 UTC
From: Mike W5RKL
Topic: 49198 Message: 49216

Vic,

No, there's no requirement for a jumper or jumper plug being plugged into the TS-530 and TS-830 Remote VFO socket if the either one of the Remote VFOs, VFO-230 or VFO-240, are not plugged into the rear panel's remote VFO socket. The TS-530 and TS-830 Remote VFO DIN socket has an embedded micro switch that performs the same function as the TS-520 and TS-820 jumper plug or jumper wire between pins 8 and 9 on the rear panel's 9 pin VFO socket.

73
Mike W5RKL

On 7/6/2014 2:10 PM, Gerald gvpurvis@... [TS-520_820_530_830] wrote:
> A question for the group?
> Does the TS 530S need to have the remote plug like the 520,520s etc.
> The manual is not clear.It shows the external VFO line and the remote
> output going to an amplifier.?
>
> Thanks?
> Vic
> NB4T
>
> You know why there's a 2nd Amendment ? In case the government fails to
> follow the 1st Amendment ...
>
>

49217. Re: Took to Field Day and no output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-07 02:16:01 UTC
From: stg57@...
Topic: 49191 Message: 49217

Hi Terry,

Thanks for the reply, I think it was right on. The resistors were way off with one being close to 2Meg, and the other 44K. I am now getting a defined DIP, as I would expect. I had thought that I use to get a DIP back when I first bought the rig used, and when I tune up my DX-100 it also gives a nice DIP.

While it was taken apart, I went ahead and risked really messing it up, cleaned the wipers in the VFO.

Cleaned up the PA Cage, and put in Ken's cage kit, has been sitting in a drawer for at least the last 5 years, and the caps did have the dark brown overheated look.

I did notice the top of the first 6146W looking from the front of the radio had some carbon like residue on the plate contact while I was cleaning it up. have never heard any arcing during my use with it, did notice the cap fit over the tube slightly loose, so with some slight bending of the wire it now sits better.

Loaded up in the dummy load fine, acted like it should, and with my old non-calibrated HM-102 meter it said it was at 80Watts on 20mtr. in CW.

Thanks again, love this group!

James WS4JH

---In TS-520_820_530_830@yahoogroups.com, <wagstw46@...> wrote :

"1. Plate Tuning Fail - Low needle reading, no dip"

"2. Plate and Load Tune - Low needle reading no reaction"

1. Are you saying after peaking the Drive in Tune mode you cannot get the initial plate current dip in Tune mode? If so, where do you have the Plate Load cap set at? Set it so the plates are closed ie fully meshed. This will give you the most discernable Ip dip to adjust the Tank to resonance. If you get no Ip dip then try it in CW mode. Dont leave it key down very long. You may have a problem with the Screen Grid voltage divider resistors.

2, Are you saying with radio in CW mode and panel meter in RF position when you flip to Send and alternately adjust the Plate Load and Plate Tune caps you get no or very low peak in RF relative power? If so, perhaps someone adjusted the RF voltage sensitivity pot accessed thru the side panel. Try adjusting the sensitivity pot for more deflection. 2/3 to 3/4 deflection is good spot to work with.

If you can load the rig in CW mode then will need to measure R5 and R6 56k ohm resistors on the HV Unit board. If one is bad replace both.

Terry K9TW

49218. RE: [TS-520_820_530_830] Re: TS-820 taking out the 12by7

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-07 05:40:27 UTC
From: fpath fpath
Topic: 49198 Message: 49218

Vic,

The 530s and 830s do not require the octal plug you are referring to, they will operate perfectly fine without. However, during routine yearly maintenance, it is recommended to apply a small amount of deOxit to the socket and insert the male connector several times, this is mainly due to the miniature switch that is encased in the female socket and sometimes sticks etc. Remember to blow out socket.

73s

Dave

VK5PDL

From: TS-520_820_530_830@yahoogroups.com
To: TS-520_820_530_830@yahoogroups.com
Date: Sun, 6 Jul 2014 14:10:09 -0500
Subject: Re: [TS-520_820_530_830] Re: TS-820 taking out the 12by7

A question for the group?
Does the TS 530S need to have the remote plug like the 520,520s etc. The manual is not clear.It shows the external VFO line and the remote output going to an amplifier.

Thanks
Vic
NB4T

You know why there's a 2nd Amendment ? In case the government fails to follow the 1st Amendment ...

Posted by: Gerald <gvpurvis@...>

Reply via web post
•
Reply to sender
•
Reply to group
•
Start a New Topic
•
Messages in this topic (14)
Visit Your Group

New Members 9

• Privacy • Unsubscribe • Terms of Use

.

49219. Hybrid Net Update (July 6, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-07 12:29:06 UTC
From: Mark Gilger
Topic: 49219 Message: 49219

Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

The net recently celebrated it□s 2nd year in existence on November 1st, 2013. The yearly check-in totals are posted at the bottom of this message. It showed we had a 10% increase in our Saturday check-ins and an 8% on Sunday as compared to the 2012 check-ins.

There was no Saturday net.

The Sunday net was run by me, WB0IQK. There were 14 stations checking in under good band conditions. We had the following number of radios checking in.

3 running TS-520(x)
0 running TS-530(x)
2 running TS-820(x)
2 running TS-830S
0 running TS-511
0 running 599 twins

The reset were running non Kenwood hybrid equipment.

I was running my TS-820s twins (TS-820S + R820).

We have been having several people checking in regularly with their TS-430, TS-440, and TS-940□s, which of course is not a hybrid, although over 30+ years old. Everyone is welcome as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a net control station, please send me an email. Currently it's just myself, WB2KNR and WB0SGA. I would like to get several more. If we do, we can alternate so everyone might be on a 3-4 week rotation. It's a lot of fun and a good way to make sure you station is optimized.

For anyone that has not heard, we have a new web site that WB4HFN is hosting. He currently has a

very nice site for Drake, Collins and Heathkit
and now Kenwood Hybrids. Good quality manuals
plus sale flyers and brochures will be found
here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 ☐ Oct. 2012 Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins

November 2013, Saturday☐s net total = 94, Sunday☐s total = 85
December 2013, Saturday☐s net total = 87, Sunday☐s total = 103
January 2014, Saturday☐s net total = 71, Sunday☐s total = 82
February 2014, Saturday☐s net total = 80, Sunday☐s total = 85
March 2014, Saturday☐s net total = 82, Sunday☐s total = 73
April 2014, Saturday☐s net total = 64, Sunday☐s total =43
May 2014, Saturday☐s net total = 66, Sunday☐s total = 35
June 2014, Saturday☐s net total = 43, Sunday☐s total = 59
July 2014, Saturday☐s net total = 0, Sunday☐s total = 14 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

49220. Help - 830S Frequency Display constantly counting up

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-07 00:10:28 UTC
From: n612dw@...
Topic: 49220 Message: 49220

oh great Obeewahnkenobees of 830 omniscience,

TS830 that has been running fine, EXCEPT now the frequency display constantly counts up from 1 to 99 mhz (all display digits counting up fine).

probably no coincidence as i just installed a 8mhz cw filter, i suspect that a connection between IF an freq counter board got compromised from my having to remove the board and solder in the filter ?

frequency is totally stable, no problem there, so must be localized to the display input? almost like the counter is not getting any input???

suggestions before i open it up and start chasing the schematic?

-bob, W9ZV

49221. Chinese microphone

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-07 08:12:45 UTC
From: beeson.neil@...
Topic: 49221 Message: 49221

I brought one of those Chinese microphones listed as for TS820, 520 etc and suprise it don't work so I notified the seller and they sent another one. Suprise it don't work either. Putting an ohms meter on 20k my MC50 reads 1.2 on the insert side at the plug and on the Chinese ones read 9.5. They wont even work on my TS 680S. So I'm going to make a patch lead to use my MC60 until I can find an original one for my TS 520SE.
Just thought I'de let people know if they were thinking of buying one DON'T.
One question, will the 520 take to using the mic pre-amp on the MC60 mic or leave it turned off?
73
Neil
VK6NSB

49222. Re: Swearing

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-07 08:13:57 UTC
From: beeson.neil@...
Topic: 49209 Message: 49222

Well said Mike

Moderator's Note:
Neil, you need to add a signature to your messages.

Mike W5RKL Moderator

49223. Re: [TS-520_820_530_830] Re: TS-820 taking out the 12by7

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-07 10:46:57 UTC
From: terence clayton
Topic: 49198 Message: 49223

Robert,
Yes I agree with you if you have found a few of the Caps damamged then best to replace the rest rather than just one or 2. Like you say the problems that you get with Old Electrolytics is the Electrolite in them can dry and become in effective.

Also Like you say Time, Operating Temp and AGE are not good freinds of Electrolytic Capacitors, and for the sake of few mins and a few Pennies or Cents then save problems.

Cheers,

Terry G0TKJ

Moderator's Note:
Message trimmed of excess data.
73
Mike W5RKL Moderator

49224. Re: Took to Field Day and no output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-07 13:12:45 UTC
From: wagstw46@...
Topic: 49191 Message: 49224

Ok-Glad that replacing Tune SG divider resistors fixed it.

Another common one is the SG divider resistors for the Driver Tube.

Unfortunately I am starting to see more and more carbon resistors going very high or open. There are times when the 300 supply bleeder is open and that can get you a nasty shock.

It wont be too long before someone is selling a total carbon resistor replacement kit!

Terry K9TW

49225. Re: [TS-520_820_530_830] Re: TS-820 taking out the 12by7

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-07 13:16:20 UTC
From: Mike W5RKL
Topic: 49198 Message: 49225

Robert and Terry (G0TKJ),

I don't think you guys are aware of how sensitive the PC board foil runs and solder pads are in the Kenwood Hybrids. It doesn't take much heat to damage the foil run. While you may think the solder connection is fine, heat can easily damage the foil/solder pads even around the component lead that you can't see with the naked eye. I've seen damage to the foil runs occur at the plug pins that can't be seen with a high intensity light and a magnifying glass. The only way to find the cracks is to use an ohm meter. These cracks were created by simply replacing a component. The crack occurred at the component lead solder pad using less than 30 watts of heat. Therefore, the less stress you place on the PC board foil runs the better. This is not to say you should not replace a known bad component. All we are saying is to use some common sense and not replace components that have not be found to have failed.

Also, using the "shot gun" component replacement method may fix a problem in your radio but you will never know which component actually fixed the problem therefore you did not learn anything.

73
Mike W5RKL

On 7/7/2014 5:46 AM, terence clayton terryicecool@...
[TS-520_820_530_830] wrote:
> Robert,
> Yes I agree with you if you have found a few of the Caps damamged then
> best to replace the rest rather than just one or 2. Like you say the
> problems that you get with Old Electrolytics is the Electrolite in
> them can dry and become in effective.
>
> Also Like you say Time, Operating Temp and AGE are not good freinds of
> Electrolytic Capacitors, and for the sake of few mins and a few
> Pennies or Cents then save problems.
>
> Cheers,
>
> Terry G0TKJ
>
> Moderator's Note:
> Message trimmed of excess data.
> 73
> Mike W5RKL Moderator
>
>

49226. Re: Help - 830S Frequency Display constantly counting up

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-07 13:55:00 UTC
From: wagstw46@...
Topic: 49220 Message: 49226

Bob

I doubt you did anything to the counter display board by installing a filter on the IF board.

You can make sure you have 1khz input from PLL board to the Counter Display board, but my guess is you have lost Q3 SN74LS00N. You may be able to confirm that by comparing output signals with O-scope at pins 6 and 8.

Can replace it with most any Quad 2-Input NAND gate chip. I replace them from time to time with a HD74LS00P.

Have to exercise caution with unsolder and resolder as easy to lift a foil. I use Hakko 808, but it can be done with solder wick.

You may be better off buying a Counter Unit from Bob Mansker. I suspect around $75.00. If planning to keep the radio this may be better option as you will have spare chips and spare display which is no longer available.

Terry K9TW

49227. Re: [TS-520_820_530_830] Re: TS-820 taking out the 12by7

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-07 15:44:07 UTC
From: Bob
Topic: 49198 Message: 49227

Mike: I agree with you 100%. The combination of heat and age can be lethal to pc boards, wiring, components, connectors, etc. This is most dramatically seen in rigs like the Heath "HW" and similar series, where there are multiple tubes and heat generating resistors in close proximity to the PCB. Also used to see this a lot in a certain generation of TV's with similarly bad results, but I don't think too many of those are still being worked on !

73

Bob / WA2JAJ

On Monday, July 7, 2014 11:27 AM, "Mike W5RKL w5rkl@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Robert and Terry (G0TKJ),

I don't think you guys are aware of how sensitive the PC board foil runs and solder pads are in the Kenwood Hybrids. It doesn't take much heat to damage the foil run. While you may think the solder connection is fine, heat can easily damage the foil/solder pads even around the component lead that you can't see with the naked eye. I've seen damage to the foil runs occur at the plug pins that can't be seen with a high intensity light and a magnifying glass. The only way to find the cracks is to use an ohm meter. These cracks were created by simply replacing a component. The crack occurred at the component lead solder pad using less than 30 watts of heat. Therefore, the less stress you place on the PC board foil runs the better. This is not to say you should not replace a known bad component. All we are saying is to use some common sense and not replace components that have not be found to have failed.

Also, using the "shot gun" component replacement method may fix a problem in your radio but you will never know which component actually fixed the problem therefore you did not learn anything.

73
Mike W5RKL

On 7/7/2014 5:46 AM, terence clayton terryicecool@... [TS-520_820_530_830] wrote:

>Robert,
>Yes I agree with you if you have found a few of the Caps damamged then best to replace the rest rather than just one or 2. Like you say the problems that you get with Old Electrolytics is the Electrolite in them can dry and become in effective.
>
>
>Also Like you say Time, Operating Temp and AGE are not good freinds of Electrolytic

Capacitors, and for the sake of few mins and a few Pennies or Cents then save problems.
>
>
>Cheers,
>
>
>Terry G0TKJ
>
>Moderator's Note:
>Message trimmed of excess data.
>73
>Mike W5RKL Moderator
>
>

49228. Re: [TS-520_820_530_830] Re: TS-820 taking out the 12by7

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-07 17:46:59 UTC
From: John Davidson
Topic: 49198 Message: 49228

Robert , the last few lines in your last post say it all. Sounds like the actual owner/operator has no Idea how to use a hybrid radio.
You should urge him to trade his Hybrid and a few more bucks for a solid state radio where he will not be able to damage it by neglecting to tune up correctly.
73, John K8JD

On Monday, July 7, 2014 11:44 AM, "Bob bb_62_nj@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Mike: I agree with you 100%. The combination of heat and age can be lethal to pc boards, wiring, components, connectors, etc. This is most dramatically seen in rigs like the Heath "HW" and similar series, where there are multiple tubes and heat generating resistors in close proximity to the PCB. Also used to see this a lot in a certain generation of TV's with similarly bad results, but I don't think too many of those are still being worked on !

73

Bob / WA2JAJ

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Robert and Terry (G0TKJ),

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Also, using the "shot gun" component replacement method may fix a problem in your radio but you will never know which component actually fixed the problem therefore you did not learn anything.

73
Mike W5RKL

On 7/7/2014 5:46 AM, terence clayton terryicecool@yahoo.co.uk [TS-520_820_530_830] wrote:

>Robert,
>Yes I agree with you if you have found a few of the Caps damamged then best to replace the rest rather than just one or 2. Like you say the problems that you get with Old Electrolytics is the Electrolite in them can dry and become in effective.
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>
>Also Like you say Time, Operating Temp and AGE are not good freinds of Electrolytic Capacitors, and for the sake of few mins and a few Pennies or Cents then save problems.
>
>
>Cheers,
>
>
>Terry G0TKJ
>
>Moderator's Note:
>Message trimmed of excess data.
>73
>Mike W5RKL Moderator
>
>

49229. Re: [TS-520_820_530_830] Re: TS-820 taking out the 12by7

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-07 17:49:11 UTC
From: Mike W5RKL
Topic: 49198 Message: 49229

No Bob, you're right, not many older TVs left.

I mean no disrespect towards anyone.

There are a lot of older point to point wiring and PC board ham gear still running strong that have vacuum tube as well as solid state device using multi-capacitor cans, some oil filled caps in older vacuum tube gear, and multi-capacitor multi-lead radial lead caps still around. The Heathkit SB-300 receiver has a multi-capacitor can electrolytic plus some axial lead electrolytic caps below the chassis.

The quality of electrolytic capacitors have improved significantly over the years. A 20ufd 450VDC electrolytic capacitor made in the 50s does not have the same quality as a 22ufd 450VDC electrolytic capacitor today, the materials and manufacturing processes are much better today than back in the 50s. I use to own a Kenwood TS-820S and the HV caps, both 100ufd 500VDC, had "dimples" on the vent side (lead side). It was obvious the caps had been stressed beyond their normal operating range by some previous owner. I replaced them after 6 months owning the 820 with new caps. I have a Heathkit SB-303 all solid state ham band receiver. When I bought the receiver I pulled the power supply filter board. The main 2000ufd 40VDC filter capacitor (I think I have that cap value right) had a pressure relief value breakage allowing the capacitor to leak onto the positive end, nothing leaked onto the board itself. I replaced the cap and perform an alignment check, the +15VDC was off a little but other than that bad cap, the receiver worked fine and still does. That receiver was marketed in the 70s which would make it approximately 39 years old now and the original capacitors are doing fine due to the quality of the caps were significantly better than the caps of the mid 50s.

There is the mentality that it's good insurance for the future to replace old components without testing them to determine if they actually need replacing. I'm sure there are some who will replace all the old electrolytic capacitors then say they notice a significant difference in how the equipment operated. The problem with that statement is, what are they using to compare the result with? Did they perform test and measurements and made notes "before" the capacitors were replaced then perform the same test and measurements "after" the capacitors were replaced so they actually have some figures to compare? I doubt most people do that.

73
Mike W5RKL

On 7/7/2014 10:44 AM, Bob bb_62_nj@... [TS-520_820_530_830] wrote:
> Mike: I agree with you 100%. The combination of heat and age can be
> lethal to pc boards, wiring, components, connectors, etc. This is most
> dramatically seen in rigs like the Heath "HW" and similar series,
> where there are multiple tubes and heat generating resistors in close
> proximity to the PCB. Also used to see this a lot in a certain
> generation of TV's with similarly bad results, but I don't think too
> many of those are still being worked on !
>
> 73
>
> Bob / WA2JAJ
>

49230. Re: [TS-520_820_530_830] Adding Message Signature

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-07 19:22:50 UTC
From: Joseph Stiles
Topic: 49210 Message: 49230

John and other group members,

  On this group's main mail page(which is here if you're reading this) and possibly others...look up to the UPPER RIGHT CORNER...you will see a "house(home)", your name, and a "cog wheel." Click on the "cog wheel,"....click "Settings," on the next screen...click on " Writing Email," look at the screen towards the bottom...you will see "signature." Add your name and call here..and save. Any mail that you now send to THIS group...and other Yahoo groups..will have that signiture

73 Joe
WB7UQU
TS-520_820_530_830 Yahoo group Co-owner

On Sunday, July 6, 2014 10:32 AM, "Mike W5RKL w5rkl@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Yep, manually adding a signature is perfectly okay John.
>
>73
>Mike W5RKL
>
>
>On 7/6/2014 12:02 PM, John Davidson k8jd@... [TS-520_820_530_830] wrote:
>
>
>>I went thru the Yahoo mail settings and found no provision for adding a fixed signature.
>>I have one on QRZ.com forums.
>>So if I am trying to avoid being the anonomus poster,
>>(no name, no call, no QTH)
>>I will manually add;
>>73, K8JD, John
>>Commerce, MI
>>
>
>
>
>
>

49231. Re: [TS-520_820_530_830] Adding Message Signature

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-07 20:39:29 UTC
From: John Davidson
Topic: 49210 Message: 49231

Hope this works.

On Monday, July 7, 2014 3:22 PM, "Joseph Stiles stilesjoseph@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

John and other group members,

  On this group's main mail page(which is here if you're reading this) and possibly others...look up to the UPPER RIGHT CORNER...you will see a "house(home)", your name, and a "cog wheel." Click on the "cog wheel,"....click "Settings," on the next screen...click on " Writing Email," look at the screen towards the bottom...you will see "signature." Add your name and call here..and save. Any mail that you now send to THIS group...and other Yahoo groups..will have that signiture

73 Joe
WB7UQU
TS-520_820_530_830 Yahoo group Co-owner

On Sunday, July 6, 2014 10:32 AM, "Mike W5RKL w5rkl@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Yep, manually adding a signature is perfectly okay John.
>
>73
>Mike W5RKL
>
>
>On 7/6/2014 12:02 PM, John Davidson k8jd@... [TS-520_820_530_830] wrote:
>
>
>>I went thru the Yahoo mail settings and found no provision for adding a fixed signature.
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>>(no name, no call, no QTH)
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>>73, K8JD, John
>>Commerce, MI
>>
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>
>

49232. Re: [TS-520_820_530_830] Adding Message Signature

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-07 20:40:40 UTC
From: John Davidson
Topic: 49210 Message: 49232

My radio is Ham Radio...CW is Real Radio
73, John...K8JD

On Monday, July 7, 2014 3:22 PM, "Joseph Stiles stilesjoseph@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

John and other group members,

  On this group's main mail page(which is here if you're reading this) and possibly others...look up to the UPPER RIGHT CORNER...you will see a "house(home)", your name, and a "cog wheel." Click on the "cog wheel,"....click "Settings," on the next screen...click on " Writing Email," look at the screen towards the bottom...you will see "signature." Add your name and call here..and save. Any mail that you now send to THIS group...and other Yahoo groups..will have that signiture

73 Joe
WB7UQU
TS-520_820_530_830 Yahoo group Co-owner

On Sunday, July 6, 2014 10:32 AM, "Mike W5RKL w5rkl@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Yep, manually adding a signature is perfectly okay John.
>
>73
>Mike W5RKL
>
>
>On 7/6/2014 12:02 PM, John Davidson k8jd@... [TS-520_820_530_830] wrote:
>
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>>I went thru the Yahoo mail settings and found no provision for adding a fixed signature.
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>>(no name, no call, no QTH)
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>>73, K8JD, John
>>Commerce, MI
>>
>
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>

49233. Re: [TS-520_820_530_830] Re: TS-820 taking out the 12by7

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-07 22:06:00 UTC
From: Jan Servaites
Topic: 49198 Message: 49233

Well, the PC lands are sensitive, I admit, and I have damaged some using
solder wick & my Weller soldering iron. But since I have acquired my new
Hakko de-soldering iron, I feel very confident replacing components on
my Kenwood PC boards. I highly recommend you guys consider buying one,
it is wonderful. The components just fall off the board.
I purchased mine from MCM electronics, and I think they still have them
on sale too.
Jan N8CBX

Mike W5RKL w5rkl@... [TS-520_820_530_830] wrote:

>
>
> Robert and Terry (G0TKJ),
> I don't think you guys are aware of how sensitive the PC board foil
> runs and solder pads are in the Kenwood Hybrids.
>
>
> _

49234. Re: Chinese microphone

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-07 23:15:05 UTC
From: clifford wright
Topic: 49221 Message: 49234

Re microphones. Carefully check out the connections to the 4 pin mic connector.
But, be warned, not all 820S are the same. Mine uses a different connection system than that in the manual.
They work best with medium to high impedance mics. Say 600 Ohms and up.
Lo Z mics seem to have too low an output to drive the TS820 series. I use an electret mic with a battery powered preamp, controlled by a PTT switch. Works fine, tho I am basically more a CW person.
ZL1BDA

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

49235. RE: [TS-520_820_530_830] Re: TS-820 taking out the 12by7

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-07 22:45:08 UTC
From: Robert Port
Topic: 49198 Message: 49235

Good day all and I hope your Monday was a good one. Mike, yes I do understand the foil tabs are sensitive to be sure. I did but a quality soldering station with temp control. I do a lot of repairs so I want a good one. I never do any close work without wearing my magnifying glasses and yep my wife thinks I look like a man from outer space and the fact I am getting long in the tooth. If you overheat the pads the glue that holds the foil on will give way and then you have a mess. Heathkit was good for that. Now this project is off the bench the next one is a Hickok 752 tube tester I picked up for 20 dollars. A good cleaning with a couple of cans of deoxit should work.
Robert.
KE7KPB

this post edited as it contained already posted material. 73 Joe wb7uqu

49236. Re: Help - 830S Frequency Display constantly counting up

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-08 02:28:59 UTC
From: n612dw@...
Topic: 49220 Message: 49236

hi terry, i dont think i did anything to the counter board itself (as i said it worked just fine before i started fiddling).

i suspect i just have an intermittent inter-board connection between them somewhere. That may have been caused by my diddling around.

I did see the 1khz input at Q3 - the old 74xx TTL logic is kinda tough and to break and is very tolerant.

and as i sit here I noticed that it just fixed itself... so its an intermittent somewhere.

i do plan on keeping the radio as its a very cherry example and i just acquired it a month ago or so.

who or what is a Bob Mansker?

-bob w9zv

49237. Re: Help - 830S Frequency Display constantly counting up

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-08 03:29:10 UTC
From: n612dw@...
Topic: 49220 Message: 49237

Hi Terry,

pretty close call... the output of the /2 flip-flop circuit created by Q3a and Q3b is stopping, but the input (coming from Q6 pin 14) is always fine.

if i put a few drops of freeze spray on either C21/22 or R34/35 or even the 74LS00 NAND gate, it corrects itself and begins to work. This lasts until it warms back up again. But im not convinced its the 7400 as these LS ttl devices are rather bulletproof. They either work or dont work.

but this seem like it might be somewhat of a design flaw, as the circuit seem to violate the TI specs for the 'LS00 gate for maximum allowable voltage for a valid input low signal (ViL). The TI specs sez that maximum allowable input voltage for ViL is .8v. Yet the input voltage is always above 1volt for either pins 10 or 4 of Q3. Freezing the parts is probably marginally just causing it to hit the threshold or catching things on the edges. I have a 350mhz scope on it maybe its just the edges that i cant see?

I cant really visibly measure the difference/change with the O'scope but at these edges of the spec, weird things happen and its hard to predict.

it looks like removing the counter board is going to be a major PITA that i dont want to undertake unless i absolutely have to (i dont even see how to remove it without the whole front panel coming off).

what are they gaming with the 47k and 5pf caps for on Q3 pins4/10 ??? I guess i dont underferstand the circuit, can you provide some guidance?

-bob

PLEASE remember to include your call(if any) when posting. 73 Joe wb7uqu

49238. Re: [TS-520_820_530_830] Re: Help - 830S Frequency Display constantly counting up

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-08 04:17:51 UTC
From: Joseph Stiles
Topic: 49220 Message: 49238

Bob,

The counter board, X54-1540-00, is easily removed. With top cover removed...look for the 2 small "allen screws" at the front-top of the unit...there are two more screws at the rear or the board..on the left and right corners

73 Joe
WB7UQU

On Monday, July 7, 2014 8:42 PM, "n612dw@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Hi Terry,
>
>
>pretty close call... the output of the /2 flip-flop circuit created by Q3a and Q3b is stopping, but the input (coming from Q6 pin 14) is always fine.
>
>
>if i put a few drops of freeze spray on either C21/22 or R34/35 or even the 74LS00 NAND gate, it corrects itself and begins to work. This lasts until it warms back up again. But im not convinced its the 7400 as these LS ttl devices are rather bulletproof. They either work or dont work.
>
>
>but this seem like it might be somewhat of a design flaw, as the circuit seem to violate the TI specs for the 'LS00 gate for maximum allowable voltage for a valid input low signal (ViL). The TI specs sez that maximum allowable input voltage for ViL is .8v. Yet the input voltage is always above 1volt for either pins 10 or 4 of Q3. Freezing the parts is probably marginally just causing it to hit the threshold or catching things on the edges. I have a 350mhz scope on it maybe its just the edges that i cant see?
>
>
>I cant really visibly measure the difference/change with the O'scope but at these edges of the spec, weird things happen and its hard to predict.
>
>
>it looks like removing the counter board is going to be a major PITA that i dont want to undertake unless i absolutely have to (i dont even see how to remove it without the whole front panel coming off).
>
>

>what are they gaming with the 47k and 5pf caps for on Q3 pins4/10 ??? I guess i dont underferstand the circuit, can you provide some guidance?
>
>
>-bob
>
>
> PLEASE remember to include your call(if any) when posting. 73 Joe wb7uqu
>
>
>
>
>

49239. Re: Help - 830S Frequency Display constantly counting up

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-08 12:31:38 UTC
From: wagstw46@...
Topic: 49220 Message: 49239

I tried to steer you toward the common problem with counting up. I didnt see anyone else respond to you. Some other KW repair men with TTL knowledge and experience have surely seen this problem and can help you.

You may be correct that it is a bad solder connection. In my experience it has not been at the Molex connector.

All I can tell you is that I have changed half a dozen of the NAND gate chips to fix this problem in TS530/TS830 rigs. Never changed any associated discrete components. Maybe it was cold solder joint and not a bad chip and the change out resulted in fixing the solder connection? I dont know. I do know that this Counter unit unlike the TS820S is not known for bad solder connections.

I am not a TTL guy, just a KW repair man. Too old to learn ancient digital logic!

Have fun

Terry K9TW

49240. TS-830s pll problem on 14 & 18 mhz band

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-08 05:14:51 UTC
From: Steven Springer
Topic: 49240 Message: 49240

Hello all. New to the group. I just acquired a TS-830S and all is well except for the loss of PLL lock at the upper & lower band limits of the 14 and 18 MHz bands. In both bands I suddenly lose all voltage at PLL TP1 when I get within approx. 90khz of the upper & lower band edges. Adjusting T3 & T4 on PLL has no effect on this problem and when set as per step 9 of service manual to its proper voltage the problem persists. All other bands work perfectly. In fact these two bands work perfectly except I can't tune in the edges without losing display, xmitt & rcv (PLL Lock). Looking at the VCO signal at D40 is the same. Suddenly drops out when band edges are reached. Not real familiar with this rig and very limited test equipment. Any thoughts are appreciated.

Steve K0SJS

49241. Re: Help - 830S Frequency Display constantly counting up

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-08 07:01:34 UTC
From: Stephen Gilbert
Topic: 49220 Message: 49241

Well, I've repaired a few of the 830 display boards, and it has always been poor soldered joints that have been the problem. There are a lot of through hole connectors joining tracks on both sides of the board, and these can be the culprit. I usually solder a wire through them to each side of the board. Where the connectors go on the board can be troublesome as well, sometimes they are loose with a cracked track near one of the pins. It is usually, just a question of re-soldering and cleaning contacts, and in the end you fix it.

Stephen, G3OAG

49242. Re: TS-830s pll problem on 14 & 18 mhz band

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-08 16:22:15 UTC
From: wagstw46@...
Topic: 49240 Message: 49242

Steve:

Do you have a means of measuring RF voltage ie a RF probe and VTVM or O-scope? Do you have a Freq Counter? Hard to troubleshoot PLL without basic test gear.

Someone may have messed with the BPF-B adjustments (T7, T8, T9).

You can carefully get on the Emitter of Q35 (I use micro-grabber test lead but may be able to use straight pin or floral pin) and look at the RF voltage level. Should be approx 100mv to 150 mv at Fc.

Best to substitute a RF sig gen signal in lieu of the VFO signal, but you can roughly check the BPF alignment by monitoring the RF voltage at Q35 emitter and slowly rotating the VFO knob to see the peak in voltage. Problem is with the VFO gear reduction not as easy to see a precise peak. It makes it too broad. Worth a try to see if the peak is grossly off. Peak should be at 24.580mhz which is 14.580mhz which is approx 5.750mhz VFO input to the PLL board.

If you have a good RF sig gen then unplug VFO from Conn 5 and inject 5.750mhz @ 200mv test signal here. Now can swing the RF sig gen frequency to see a definite peak in RF output voltage at Q35. Not to uncommon to find it shifted slightly high or low but not grossly off.

Absent necessary test gear you could note the position of T17 and try adjusting it for max rf voltage at emitter of Q35. I would not try adjusting T7,T8, T9 without a Sweep Gen. Only make things worse.

If all else fails buy a good replacement PLL board from Bob Mansker and swap them out.

Terry K9TW

49243. Re: Help - 830S Frequency Display constantly counting up

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-08 16:31:24 UTC
From: wagstw46@...
Topic: 49220 Message: 49243

So you are saying that you are familiar with the TS530/TS830 repeating 1 thru 99 count problem and you routinely fix it by reheating solder joints or installing wires in vias.

Please share where you apply the heat and wire jumpers so Bob can fix his problem. Also where are the contacts on the Counter board that you clean?

I want to add this to my notes as I have been apparently throwing away good NAND gate chips to fix this common problem!

Terry K9TW

---In TS-520_820_530_830@yahoogroups.com, <g3oag@...> wrote :

Well, I've repaired a few of the 830 display boards, and it has always been poor soldered joints that have been the problem. There are a lot of through hole connectors joining tracks on both sides of the board, and these can be the culprit. I usually solder a wire through them to each side of the board. Where the connectors go on the board can be troublesome as well, sometimes they are loose with a cracked track near one of the pins. It is usually, just a question of re-soldering and cleaning contacts, and in the end you fix it.

Stephen, G3OAG

49244. Re: TS-830s pll problem on 14 & 18 mhz band

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-08 17:01:52 UTC
From: k0sjs@...
Topic: 49240 Message: 49244

Hello Terry
Ok, this one is beyond my meager test bench. I have a rf voltmeter but not calibrated and only use to peak coils and such. Have a digital rigol oscope (100mhz) which I can try but not exactly high end. Bob just shipped me a PLL. What are the chances this will just drop in and work without alignment?? thanks so much for the quick reply

Steve K0SJS

49245. Re: [TS-520_820_530_830] Re: Help - 830S Frequency Display constantly counting up

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-08 17:25:57 UTC
From: Stephen Gilbert
Topic: 49220 Message: 49245

I did not say I had repaired a board with this particular problem, but I've had boards where the display stops with fixed digits, blanked out displays and boards that ceased to work after a short time. In every case it was a soldering problem, where repairing the poor "vias", and going over the many soldered joints eventually cleared the problem.

Pushing on & pulling off the connector plugs eventually cracks the tracks around the pins. Some of the PCB tracks go UNDER the connectors and I have had to hard wire those. Yes - you can try and narrow down the fault by scoping at the chip pins, but in some areas of the display board because of the high component density, this is not easy.

Stephen, G3OAG

49246. Re: [TS-520_820_530_830] Re: Help - 830S Frequency Display constantly counting up

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-08 20:59:19 UTC
From: wagstw46@...
Topic: 49220 Message: 49246

OK I clearly misunderstood you .

This thread was about a TS-830 display that runs from 1 to 99 and repeats over and over. I thought you had first hand knowledge that re-soldering and installing wires in specific vias resolved this problem. I agree if it is intermittent then not likely the chip, but in my experience it commonly happens every time the radio is powered on. This why it led me to look at the waveforms on this chip.

It is very interesting that there is virtually nothing in the literature that would lead us to believe that the TS530/830 Counter unit suffers the same malaise as the DG-1. I wonder why that would be the case? Perhaps I have missed the discussions? Pretty hard to miss them for the DG-1.

Cracks at the Molex pin pad to pc trace interface is well known and discussed on this forum many times. It is most common on the IF board that is pulled very frequently. Very seldom see it on the Counter Unit board in my experience. These cracks are hard to see due to the solder mask and can cause intermittents. However, any connector body motion should be an indicator of potential trouble and should be examined under magnification and good lite.

This is why I always caution new folks not to routinely pull molex connectors and clean them as so many advise. Very easy to pull connector body off the boards and to induce a latent failure. Any side to side rocking motion can induce the cracking that you describe.

I always check all Molex connectors and any that have any motion are suspect.

I didnt realize you were talking in generalities. I was really hoping that you could point us to the fix for the problem that the thread was discussing. If I have been needlessly replacing good NAND gates I want to know about it.

The problem with reheating all solder connections and cleaning all molex connectors and cleaning all relay contacts is this:

1. You have no idea what fixed the problem if it infact does.
2. You have jeopardy of breaking something (ie immediate failure)
3. You have jeopardy of inducing a latent failure that will manifest itself down the road

As Mike W5RKL so correctly points out you have to be very careful un-soldering and re-soldering these old phenolic boards.

I dont have any pc trace to pin pad or other jumper wire "repairs" on any of my rigs boards and dont do it to customers boards unless they authorize it. Just my preference.

Sorry I misunderstood what you were saying. I was anxious to talk to someone who had seen this problem before and understood the root cause and had the fix. As I said I have been replacing the NAND gates which fixes the problem, but it may be bad solder connection ? I look at all 14 pins under magnification and havent noticed any that look suspect on Q3.

Maybe Bob will be able to tell us for certain?

Terry K9TW

49247. Re: TS-830s pll problem on 14 & 18 mhz band

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-08 21:17:47 UTC
From: wagstw46@...
Topic: 49240 Message: 49247

Steve:

I depends on your definition of alignment.

Most will work pretty well as this board typically has the least amount of golden screwdrivers applied to it other than Carrier Osc trimmer cap adjustment which has a bit of personal preference to it (bass or treble audio response).

I would put it in and power rig and see how it works, but I would then refer to the service manual and check following:

1. Adjust Carrier Osc level
2. Adjust LSB/USB Carrier Osc trimmer caps (better way is to inject audio in mic line and adjust 3dB roll off on external wattmeter. Absent that test gear can use the Marker/S-meter/Zero Beat method described in the Survival Guide in the maintenance section to get close).
2. Step 9 VCO adjustment (at least with with a DMM)

If you are going to work on these rigs suggest you buy a Freq Counter when you can.

You should be able to compare your RF probe and VTVM with your Rigol. Rigol scope will be fine for this work.

Terry K9TW

49248. Tuning Knob for an AT-230 Tuner

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-08 21:57:33 UTC
From: PJL660@...
Topic: 49248 Message: 49248

Does anyone have an idea where I might be able to source a replacement tuning knob for an AT-230 tuner?

73's
Paul LaChance
WB0TUX

49249. Re: Help - 830S Frequency Display constantly counting up

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-09 00:41:04 UTC
From: n612dw@...
Topic: 49220 Message: 49249

Interesting thread.

I too do not condone messing with pulling connectors and such as i dont want to cause "maintenance induced failures" from these older rigs. I may try to touch up the connections to Q3 from the top of the board as I dont want to disturb it unless needed.

i didnt see any responses to my question regarding the design and the violation of the Valid_Input_Low voltage for the LS7400 spec seen at the NAND gates. replacing it with another 7400 MAY fix it, but not because its broken, but because another chip may work because of tolerance to the violation.

Any thoughts regarding the design (read my prior post) ? What is the purpose of the 47k resistors and being capacitor coupled inputs for DC ttl inputs on Q3 pins 4&10 ?

tnx Joe/Terry/Stephen.

-bob, w9zv

49250. Re: TS-830s pll problem on 14 & 18 mhz band

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-09 00:14:16 UTC
From: k0sjs@...
Topic: 49240 Message: 49250

Terry,

Thank you very much for the info. Now I really have the itch to play with that PLL I think you are spot on about the T7,T8,T9 adjustments. But I would need a sweep generator in addition to my scope. Will an elecraft xg3 work for the sweep generator? I do have one.

Steve K0SJS

49251. Re: Help - 830S Frequency Display constantly counting up

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-09 11:38:33 UTC
From: tjb813@...
Topic: 49220 Message: 49251

Interesting problem. If you don't mind I would like to throw my 2 cents in.

Having designed a few frequency counters I have some experience with using 74ls00 as a gate control. I think your assesment of the chip being on the edge is correct. Where I found the 74ls chips to be marginal I insured that the bypass cap on the +5v was close(r) to the chip and that the power supply was "stable". Check for ringing on the 5V line. Oviously check the voltage regulator. Also verify there is a good ground (0v) connection on pin 7 of the 74ls00, and on the chip that is supplying the +1V ViL input.
If you have already done that, sorry, just ignore my rambling.

My experience with the DG-1 is that it typically was a ground plane conneciton that needed re-soldering. I know you don't have a DG-1, but my theory is that KW had issues with wave soldering and the gound plane was sore spot.

73,

Tim
KD8CN

49252. Re: TS-830s pll problem on 14 & 18 mhz band

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-09 13:12:46 UTC
From: wagstw46@...
Topic: 49240 Message: 49252

Steve:

The XG-3 would be more useful if it had sync capability. You would also need another RF sig gen to inject the marker frequencies.

You can use the XG-3 and your O-scope or RF probe and meter to sweep the BPF using the old fashioned manual method. A little tedious but will result in accurate display of the frequency response as it currently sits. Not a good method for trying to make adjustments.

Connect your Scope or RF meter to emitter of Q35. Unplug the VFO input and substitute your XG-3. Set for 0dBm output level. Now step thru at approx 100khz steps from 5.000mhz to 6.600mhz and note and record the RF voltage level at each frequency step. As you get closer to Fc use smaller steps. The more steps you record the more accurate will be the results.

Now make a graph of the RF voltage vs the Frequency. Voltage on the Y-axis and Freq on the X-axis. You are now looking at the As-Found frequency response of the BPF. Can hand plot on graph paper or use Excel to produce a nice graph.

I can email you sample TS-830 graphs of how I use to do this before I got a Sweep Gen and now using a Spectrum Analyzer with Tracking gen.

Terry K9TW

---In TS-520_820_530_830@yahoogroups.com, <k0sjs@...> wrote :

Terry,

Thank you very much for the info. Now I really have the itch to play with that PLL I think you are spot on about the T7,T8,T9 adjustments. But I would need a sweep generator in addition to my scope. Will an elecraft xg3 work for the sweep generator? I do have one.

Steve K0SJS

49253. Re: Help - 830S Frequency Display constantly counting up

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-09 13:17:05 UTC
From: wagstw46@...
Topic: 49220 Message: 49253

Tim:

Thanks for your input.

Terry K9TW

49254. Re: TS-830s pll problem on 14 & 18 mhz band

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-09 13:29:27 UTC
From: wagstw46@...
Topic: 49240 Message: 49254

Steve:

I forgot I have posted on my website a copy of the manual sweep method of TS-830 BPF. Go to k9tw.com and look under Photos/Videos tab.

I posted this as someone else had contacted me off the Reflector asking about how they could see where the BPFs currently sit. Same method can be employed for each filter. Have to follow the steps in the Service manual to get the respective filter switching diodes turned on and to determine where to connect your XG-3.

Steps could use some more meat on the bones so if you get confused contact me off list and I can help you.

The graph you see posted was produced with a regular RF sig gen and a RF millivolt meter. As noted you can use your XG-3 and either O-scope or RF probe and VTVM. You dont care about accuracy of measured RF voltage at emitter of Q35, but you do need accurate frequency input from whatever RF sig gen you use.

Terry K9TW

49255. New TS-520 Owner with predictable tuning question.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-09 14:16:29 UTC
From: Mark PWK
Topic: 49255 Message: 49255

Greetings from sometimes sunny Pitt Meadows, British Columbia!

I'm a brand new Amateur Radio operator and I've just recently become the proud owner of a TS-520. Even more recently, I worked a few stations all the way east of the continent with the help of my home-brewed wire dipole. I'm pretty pleased with what I've done so far, considering I'm totally new to this, but of course, would like to learn more about the intricacies of the radio that I use.

So let's start at the beginning, the tuning process. When I got the radio, I inherited a laminated card with the tuning instructions. I thought I'd post it here to get some opinions on it and hopefully understand it better:

1. PLATE IDLING CURRENT
Meter in IP, Mode SSB, flip send and meter should hit 60 mA.If not, adjust BIAS on side panel.

2. DRIVE
Meter in ALC, Mode TUNE, flip send and adjust DRIVE to MAX ALC. If not ALC is indicated, increase CAR control until there is a reading.

3. PLATE TUNING
Meter in IP, Mode TUNE, flip send and adjust PLATE dial to see meter DIP, leave in DIP.

4. PLATE and LOAD TUNING - Full power adjustment
Meter in RF, Mode CW, flip send and adjust PLATE dial to MAX meter and then LOAD dial to MAX meter. Use RF VOLTS on side to adjust to give 2/3rs meter scale.

5. PTT Operation
Meter in ALC, Mode SSB, key Mic and talk into Mic. Adjust Mic gain until meter peaks to within top limits of ALC. Do not overdrive Mic.

6. VOX Operation
Key up and talk again, adjust VOX GAIN CONTROL on left side panel until VOX relay just operates.

I also watched the video by W2AEW and pored over the excellent instructions from K4EAA. Neither of these make mention to the adjustment of the BIAS or RF VOLTS on the side panel. I do, as a matter of course adjust the bias to 60 mA religiously, and the RF VOLTS gave me quite the scare when I discovered my ham fisted adjustment could make the meter peg out so easily!

What exactly do these adjustments do?

Another thing that took awhile for me to figure out was why I could not zero the meter! It was always hovering around the 40-50 mA mark! For the longest time, I thought I broke the meter, or worse, the radio, and was trying to figure out if there was a screw I could adjust to zero the meter. Much poring over the manual later....I found that the RF control MUST be set to MAX in order for the meter to be zero.Oh well, chalk it up to another newbie

mistake. Which got me to thinking...what else am I doing that's wrong?

And so I find myself here.Thanks for taking the time to read.

73,
Mark VA7PWK
TS-520, MFJ 969 Versa Deluxe Tuner, Home-brewed Wire Dipole Antenna

49256. Re: Chinese microphone

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-09 09:17:10 UTC
From: beeson.neil@...
Topic: 49221 Message: 49256

Cliff The mic's were for a TS520SE and they're wired the same as my MC50 that does work. Impedance reading at the plug has a big difference. My adaptor cable is ready so I'm going to run my MC60 as the MC50 is for another radio. A tech mate is going to look at the chinese mics to see what's wrong
73
Neil
VK6NSB

49257. Re: Help - 830S Frequency Display constantly counting up

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-09 15:59:32 UTC
From: wagstw46@...
Topic: 49220 Message: 49257

Bob

As I mentioned I am not a TTL logic guy. Last frequency counter I built was in the 70s! The chips of that day were 7490/7475 and I used RCA Numitrons for display and they looked great but caused my electric meter to spin off the house!

If I had to hazard a guess three configs come to mind:
1. A Flip Flop with the 47k resistor providing the feedback from the Not-Q output back to the input to give the precise divide by two? I have measured the input and output and it is precisely 10hz in and 5hz out just as noted on the schematic.

2. A Schmitt Trigger Oscillator with the 47k resistors and 5pf caps determining the operating frequency? I dont think so as RC time constant doesnt look correct?

3. The 5pf caps and 47K resistors just form a simple RC Differentiator to waveshape the rectangular pulses from output of Q6. Look at waveshape at Q6 Pin 14 and then look at waveshape at Q3 Pins 4 or 10.

There has to be some digital logic guys among the members who can tell us how this circuit is configured.

KW engineers didnt always follow the "rules". They did however copy a lot of good and proven design. I always like to give them the benefit of the doubt.

Time for me to move on.

73s
Terry K9TW

49258. Digital Interface?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-09 17:11:12 UTC
From: K5MYJ
Topic: 49258 Message: 49258

I have been modifying Phone Patches to serve as Digital Interfaces.

I do have a Kenwood PC-1A (8 pin connecter) to use with a Kenwood 2M FM system.

But I also want a digital interface for my TS-520. I could buy a PC-1 (4 pin connector) and modify it.

The TS-520 does not have phone patch inputs. The later versions of the TS-520 (SE) do have direct phone patch inputs.

I have not looked at the circuit details of these inputs.

Is there a reson I should not modify my TS-520 to add the phone patch inputs like the TS-520SE has.

Are the PCBs interchangable between versions of the TS-520.

I have also considered adding the ouputs for a DG-5.

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"

49259. Re: TS-830s pll problem on 14 & 18 mhz band

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-09 18:22:55 UTC
From: k0sjs@...
Topic: 49240 Message: 49259

Terry,

OK - I have a lot to digest here since I have forgotten most of this stuff since tech school in the late 70's. I worked on mainframes for Sperry/Univac and that was very little analog theory. This stuff really sparks my interest though. Just getting back into HAM radio and was more attracted to these old hybrids vs the new stuff. I will go with the info you have given me and my limited test bench. When I fix this or if I get jammed up, I will email you directly. Thanks soooo much for the assistance. I will also post here on the group the final fix.

Take care

Steve K0SJS

49260. Re: [TS-520_820_530_830] Re: Help - 830S Frequency Display constantly counting up

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-09 19:07:48 UTC
From: Bill Houghton
Topic: 49220 Message: 49260

Hi Bob,

The cross-coupled outputs of the NAND gates make an RS latch.
If we call pin 8 the Q output then pin 6 is the Q/ output, pin 10 is the SET/ input, and pin 4 is the RESET/ input.

The purpose of the caps is to allow the edge of the input signal to produce a pulse at each input to the RS latch. If the caps are discharged then bringing the input signal from Q6 low will pull both the SET/ and RESET/ inputs low. The caps will charge up from the current from the TTL input pins and also from current through the 47K resistors. Normally driving both the SET/ and RESET/ inputs low will result in a undefined state. What makes this work is that C5 and R8 prevent the Q/ output from changing at the same time as the Q output.

The service manual, in the counter block diagram, defines this as a divide-by-two circuit. I can't find my copy of Don Lancaster's TTL Cookbook to see if something like this was included in his book but it wouldn't surprise me if it was.

I don't know if this helps.

73,

Bill, WA6NEQ

On Tue, 7/8/14, n612dw@... [TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com> wrote:

Subject: [TS-520_820_530_830] Re: Help - 830S Frequency Display constantly counting up
To: TS-520_820_530_830@yahoogroups.com
Date: Tuesday, July 8, 2014, 5:41 PM

Interesting thread.

I too do not condone messing with
pulling connectors and such as i dont want to cause
"maintenance induced failures" from these older
rigs. I may try to touch up the connections to Q3 from the
top of the board as I dont want to disturb it unless
needed.
i didnt see any responses to my
question regarding the design and the violation of the
Valid_Input_Low voltage for the LS7400 spec seen at the NAND
gates. replacing it with another 7400 MAY fix it, but not
because its broken, but because another chip may work
because of tolerance to the violation.

Any thoughts regarding the design
(read my prior post) ? What is the purpose of the 47k
resistors and being capacitor coupled inputs for DC ttl
inputs on Q3 pins 4&10 ?
tnx
Joe/Terry/Stephen.
-bob, w9zv

49261. Re: Help - 830S Frequency Display constantly counting up

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-09 19:24:31 UTC
From: n612dw@...
Topic: 49220 Message: 49261

tnx for the input (Terry/Bill/Steve).

the pair of NAND gates does indeed provide the classical RS Flip-Flop divide by two circuit. That part of it is straightforward and understood.

the piece i dont underferstand is the 47k and AC input coupling caps (C21/22) on Q3A and B. With only 5pf caps, not much of an RC is created - so i can only think of it working on the edge transitions. Maybe to produce a pulse on the latch?

when the circuit is running correctly, i do indeed see a good output waveform on Q3 pins 6/9. When it isnt working, I see what appears to me to be an invalid input voltage violation on Pins 4 and 10 - its not going low enough to be seen as a valid logical low. Its only going to about 1.2 volts - not enough to meet the 74LS00 spec for ViL of .8v max.

All this aside I went ahead and decided to touch up the pins on Q3 and the caps C21/22 (because some freeze spray made it work), suggesting a faulty connection. Put some clean solder and a smidge of flux on Q3 pins and caps, and a couple of related nearby vias to re-flow them.

Today it's been working all day without issue - all seems well.

I can only think it was something related to the integrity of the connections but they visibly looked fine even under a magnifier and good light (and from the bottom of the board as well). Still dont understand the ViL violation and how they depend on it working, and what the 47k and 5pf caps serve.

i guess i cant argue with success.

Thanks for all the help guys. I hope this stays as a stable fix.

-bob, w9zv

49262. Re: Help - 830S Frequency Display constantly counting up

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-09 19:35:46 UTC
From: n612dw@...
Topic: 49220 Message: 49262

Hi Bill,

just read your explanation - this is exactly what i was looking for. Thanks.

the RS FF (creating a f/2) is straightforward but the AC coupling and 47k's had me thinking. Hadnt thought of the R8/C5 effects... DoHHH !

the RC has to only delay by about 11-15ns on an LSxx family part to be seen as valid on the inputs to prevent the undefined state.

makes sense, tu

been a few years since i stopped designing this stuff !!

Don Lancaster's cookbook - man, i think i even have that somewhere along with the other TI hardcover data books on this TTL logic.... small world

-bob, w9zv

49263. TS-520SE S meter problem

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-09 19:45:29 UTC
From: jgf
Topic: 49263 Message: 49263
Attachments: 1 described; binary payloads are missing from this source WARC

I sent this last week and based on non response, wonder if it went through.

==========

Hello:

I'm new here. I have a TS-520SE which works fine except... Lately, intermittently, the S meter travels all over the place, sometimes pegged. The receiver still works but I think sensitivity is less during these events. I tried aligning the receiver as described in the manual but could not locate all of the adjustments on the IF board.

I have the operator and the service manual and neither shows the physical layout of parts. So I adjusted what I could find. Any help gladly accepted.

--

73's,

Joe
W1FIT

jgf@...

49264. TS830S No RF output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-10 00:51:47 UTC
From: allen3500@...
Topic: 49264 Message: 49264

I am having a Senior moment here. I cannot, for the life of me, located the place where I'm losing Drive in this TS830S.
I know it's right in front of me, but---

I am using another TS830S as a receiver on the bench and both are connected to dummy loads.
I can observe S meter deflection, on the receiving radio, upwards of half scale when tuning the 830 in question.
I can hear audio being transmitted when speaking into a Mic, but NO ALC indication, and No RF output on the wattmeter or RF indication on the radio's meter.
I do have 60ma of BIAS indicated as well as measured at the finals, but NO plate current reading when tuning. Other than the 60ma.

Here are the readings I am getting with all tubes in place:

12BY7A Driver

Receive Transmit
0VDC PIN1 4.23
-47.3 PIN2 +.447
0VDC PIN3 0VDC
0VDC PIN4 0VDC
12.6VAC PIN5 12.6VAC
0VDC PIN6 0VDC
337VDC PIN7 303VDC
247VDC PIN8 219VDC
0VDC PIN9 0VDC

6146B Finals

0VDC PIN1 0VDC
12.8VAC PIN2 12.7VAC
254VDC PIN3 238VDC
0VDC PIN4 0VDC
102.7 PIN5 -60
0VDC PIN6 0VDC
0VDC PIN7 0VDC
0VDC PIN8 0VDC
926VDC Plate 871VDC

I seem to be losing drive somewhere.
FYI - I have checked C1 on the Final board and replaced the cathode resistors account the old carbon ones were out of spec.
I have resoldered the tube socket connections on the RF Board, and checked the band switch.
Maybe C29 on the RF Board in bad?
I also replaced RY1 with one of Ken's new relay packages.

I know it's right in front of me, sooo--- what say you OH Great Sages of Kenwood land????
Thanks for the help!
Jim wb5twc

49265. Re: [TS-520_820_530_830] Re: Help - 830S Frequency Display PDF Copy Link to Lancasters Cookbook

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-10 01:48:04 UTC
From: Stephen Crain
Topic: 49220 Message: 49265

Greetings,
Here's a link to one of the editions of Lancasters cookbook.

http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=4&cad=rja&uact=8&ved=0CDMQFjAD&url=ftp%3A%2F%2Fapollo.ssl.berkeley.edu%2Fpub%2Fcinema%2F04.%2520Science%2FTTL%2520Cookbook_0672210355.pdf&ei=3e69U7qQCs63yAT59IKwCw&usg=AFQjCNHFw0HAbTMd1JuphL09I5SuHYX8sQ&bvm=bv.70138588,d.aWw http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=4&cad=rja&uact=8&ved=0CDMQFjAD&url=ftp%3A%2F%2Fapollo.ssl.berkeley.edu%2Fpub%2Fcinema%2F04.%2520Science%2FTTL%2520Cookbook_0672210355.pdf&ei=3e69U7qQCs63yAT59IKwCw&usg=AFQjCNHFw0HAbTMd1JuphL09I5SuHYX8sQ&bvm=bv.70138588,d.aWw

Stephen Crain, KG0K

this post edited as it contained already posted material. 73 Joe wb7uqu

49266. Re: [TS-520_820_530_830] TS830S No RiF output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-10 05:55:40 UTC
From: Craig Roberts
Topic: 49266 Message: 49266

Is the SG switch on the back of your radio ON?

73,

Craig
W3CRR

On July 9, 2014, at 20:51, "allen3500@bellsouth.net [TS-520_820_530_830]" wrote:

49267. Re: TS830S No RF output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-10 13:02:49 UTC
From: wagstw46@...
Topic: 49264 Message: 49267

Jim:

Because you have 900vdc on the panel meter does not mean you have it on the final tube anodes.

Can you safely measure the 900vdc at the top of the plate choke in the PA cage?

If it is missing and the choke winding does not appear to be burned or discolored then suspect that the small VHF choke at a right angle at the base of the choke is open. Ken K4EAA includes one in his rebuild kit. While there look at the RF bypass capacitor and if it is discolored or cracked replace it.

Terry K9TW

49268. Re: TS-520SE S meter problem

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-10 13:18:53 UTC
From: wagstw46@...
Topic: 49263 Message: 49268

Joe:

Did you try cleaning the RL-1 Aux relay contacts before messing with IF transformers?

The X-ray views of the PC boards in the Service manual shows location of all the components???

This doesnt sound like an alignment issue.

Are you trying to do the alignment noted in the Owners Operating manual maintenance section or the full alignment in the service manual? Need calibrated RF sig gen to do the full service manual alignment. Can use the Marker signal to do an abbreviated alignment that typically will put you in very good operational state unless there has been a golden screwdriver on the IF board.

I would clean the relay contacts first to make sure you arent losing AGC bus voltage.

Terry K9TW

49269. Re: Help - 830S Frequency Display constantly counting up

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-10 05:57:19 UTC
From: n612dw@...
Topic: 49220 Message: 49269

tnx Stephen,

Circa 1974, holy smokes, this really puts me into the Wayback Machine !! cracks me up True to scale and period, notice that the link has properly discolored cover page and all...

oh man... I was just a kid out of high school soldering up a IMSAI Z80 S-100 confuser board at about this time.

i'm fairly certain i have a copy of this old book in some box/bookcase as i definitely recall the cover.

this was printed back when Surface Mount Devices were not even a glimmer in an engineer's eye ! The only thing you had was DIP packaging and 74xx discrete gates. jeesh have things changed. Now i blow an entire board equivalent into one SMD FPGA.

-bob, w9zv

49270. Re: [TS-520_820_530_830] Re: Help - 830S Frequency Display constantly counting up

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-10 06:32:34 UTC
From: Graham
Topic: 49220 Message: 49270

Hi

I would have thought that the 5pF capacitors & 47K resistors (which form a CR time constant at about 1/4µS) are just edge triggering a set/reset flip flop, to act as a divide by 2 with both Q & /Q ouputs.
The arrangement is not particularly unusual using TTL type chips. The stages will be falling edge triggered.

Cheers
Graham
G8ZNK

---

this post edited as it contained already posted material. 73 Joe wb7uqu

49271. Re: New TS-520 Owner with predictable tuning question.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-10 07:58:04 UTC
From: beeson.neil@...
Topic: 49255 Message: 49271

Mark I use the link by Alan W2AEW to tune my TS520SE and it comes up a treat every time, good for us first timers until we get the hang of it. How to tune up a Kenwood TS-830S hybrid rig / transceiver | TS-520 TS-530 TS-820
https://www.youtube.com/watch?v=bTVpQ18dn1o

https://www.youtube.com/watch?v=bTVpQ18dn1o

How to tune up a Kenwood TS-830S hybrid rig / transc...
https://www.youtube.com/watch?v=bTVpQ18dn1o A quick video showing the proper procedure to quickly tune up the transmitter on a Kenwood hybrid rig like the TS-830S, TS-820S, TS-530S, TS-...

View on www.youtube.com https://www.youtube.com/watch?v=bTVpQ18dn1o
Preview by Yahoo

49272. Re: TS830S No RF output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-10 13:17:52 UTC
From: allen3500@...
Topic: 49264 Message: 49272

Thanks for the reply Terry.
All voltages I listed were measured at the tube pins with the tubes installed. I took the HV measurement at the top of the plate choke while connected to the 6146 anodes. The choke windings look good with no signs of scorching or being burned.
Jim wb5twc

49273. Re: TS830S No RF output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-10 15:31:46 UTC
From: wagstw46@...
Topic: 49264 Message: 49273

Jim

OK you are saying that you have good 900vdc at anodes of the tubes and you have good SG voltage and you have RF drive, but no RF relative power indication and no RF output on external wattmeter. Is this correct?

If you place the SG switch in off and in CW Mode and flip to Send with CAR level pot full CW can you peak the ALC indication? If so, you have good rf drive voltage swing at the 6146 control grids and proper operating bias voltage.

It would be rare to have a bad RF relative power diode and a bad TR relay contact at the same time. If bad TR relay contact or a bad solder connection at center of the SO-239 connector inside the PA cage (sometimes can pull the tinned bus lead from the connector) you should still have good RF relative power indication as pi-network will see the voltage divider as its load and develop high rf voltage across it.

Terry K9TW

49274. Re: [TS-520_820_530_830] Re: Help - 830S Frequency Display constantly counting up

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-10 15:37:37 UTC
From: wagstw46@...
Topic: 49220 Message: 49274

Graham:

When you look at the wave form at Pin 4 and Pin 10 It looks like a rectangular pulse that clearly has been differentiated. Fast rise time and RC decay. So it looked like edge triggered flip-flop to me as well, but not sure. Will leave it up to you logic experts. Wish was easy way to attach jpeg.

Terry K9TW

49275. Re: [TS-520_820_530_830] Re: New TS-520 Owner with predictable tuning question.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-10 15:44:34 UTC
From: Joseph Stiles
Topic: 49255 Message: 49275

Mark,

Welcome to the group and greetings from sometimes sunny Tacoma, WA. Towards the end of your post you asked: "what do these adjustments do?" Are your referring to Items 1 through 6, or the bias and RF Volt adjustment?

You do not have to adjust the bias every time you tune up or change bands. If you do, something is wrong! Once CORRECTLY set according to the "operators" or the "service manual," you should NOT have to mess with it again...unless you change final amplifier tube(s). It's good to CHECK it every once in awhile...to make sure all is well. The RF Volt adjustment gives only a RELATIVE indication of power output...you can not increase/decrease output by just turning up the indication to a higher value! It is a tuning aid only.!

There is a rather large amount of information contained in previous "conversations" regarding what various controls do. Go to this groups "HOME PAGE," and on the left side, under the picture of the really nice Kenwood station, click on "conversations," Enter your search criteria in the box at the top, click search group(s). Entering say: "6146 bias)...you may get hundreds of "conversations" mentioning it. Being specific helps. Also, you can check out the "FILES" section at the same home page...lots of good stuff there too.

73 Joe
WB7UQU

On Thursday, July 10, 2014 12:58 AM, "beeson.neil@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Mark I use the link by Alan W2AEW to tune my TS520SE and it comes up a treat every time, good for us first timers until we get the hang of it.
>How to tune up a Kenwood TS-830S hybrid rig / transceiver | TS-520 TS-530 TS-820
>
> How to tune up a Kenwood TS-830S hybrid rig / transc...
>A quick video showing the proper procedure to quickly tune up the transmitter on a Kenwood hybrid rig like the TS-830S, TS-820S, TS-530S, TS-...
>View on www.youtube.com Preview by Yahoo
>
>
>
>
>
>
>

49276. Re: [TS-520_820_530_830] Re: TS-520SE S meter problem

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-10 13:37:57 UTC
From: jgf
Topic: 49263 Message: 49276

Thanks. I'll try relay.

Parts location in TS-520SE manual does not show parts locations but TS-520S manual does which I've located and downloaded.

I don't have calibrated sig. gen so I've done only operator's alignment version.

Of course, problem has not appeared for last few days.

Regards,

Joe
W1FIT

this post edited as it contained already posted material. 73 Joe wb7uqu

49277. Re: [TS-520_820_530_830] TS830S No RF output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-10 17:50:34 UTC
From: W5RKL
Topic: 49264 Message: 49277

Jim,

Based on the 6146 voltage indications, especially pins 1 and 5, here is what I think.

1. You said the IP meter indicates 60ma.
2. You said the voltage on the 6146 grids, pin 5 on both tubes, is -60VDC.

You cannot have 60ma of IP idling current in transmit if the 6146 cathode voltages (pin 1 on both 6146 final tubes) is 0VDC. You indicate the 6146 grid voltage is -60VDC which indicates the transmitter is keyed.

Having -60VDC on the 6146 final tubes pin 5, the 6146 grid, indicates the bias circuit is switching properly from standby to transmit. The typical 6146 grid voltage, in standby/receive, is approximately -101VDC.

I think you need to perform the final tube voltage measurements again in both transmit and receive.

73
Mike W5RKL

On 7/9/2014 7:51 PM, allen3500@... [TS-520_820_530_830] wrote:
>
> I am having a Senior moment here. I cannot, for the life of me,
> located the place where I'm losing Drive in this TS830S.
>
> I know it's right in front of me, but---
>
>
> I am using another TS830S as a receiver on the bench and both are
> connected to dummy loads.
>
> I can observe S meter deflection, on the receiving radio, upwards of
> half scale when tuning the 830 in question.
>
> I can hear audio being transmitted when speaking into a Mic, but
> *_NO_* ALC indication, and No RF output on the wattmeter or RF
> indication on the radio's meter.
>
> I do have 60ma of BIAS indicated as well as measured at the finals,
> but *_NO_* plate current reading when tuning. Other than the 60ma.
>
>
> Here are the readings I am getting with all tubes in place:
>
>

> *_12BY7A Driver_*
>
>
> *_Receive_* *_Transmit_*
>
> 0VDCPIN1 4.23
>
> -47.3 PIN2 +.447
>
> 0VDC PIN3 0VDC
>
> 0VDC PIN4 0VDC
>
> 12.6VAC PIN5 12.6VAC
>
> 0VDC PIN6 0VDC
>
> 337VDC PIN7 303VDC
>
> 247VDC PIN8 219VDC
>
> 0VDC PIN9 0VDC
>
>
> *_6146B Finals_*
>
> *_
> _*
>
> 0VDC PIN1 0VDC
>
> 12.8VAC PIN2 12.7VAC
>
> 254VDC PIN3 238VDC
>
> 0VDC PIN4 0VDC
>
> 102.7 PIN5 -60
>
> 0VDC PIN6 0VDC
>
> 0VDC PIN7 0VDC
>
> 0VDC PIN8 0VDC
>
> 926VDC Plate 871VDC
>
>
> I seem to be losing drive somewhere.
>

> FYI - I have checked C1 on the Final board and replaced the cathode
> resistors account the old carbon ones were out of spec.
>
> I have resoldered the tube socket connections on the RF Board, and
> checked the band switch.
>
> Maybe C29 on the RF Board in bad?
>
> I also replaced RY1 with one of Ken's new relay packages.
>
>
> I know it's right in front of me, sooo--- what say you OH Great Sages
> of Kenwood land????
>
> Thanks for the help!
>
> Jim wb5twc
>
>
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49278. Re: [TS-520_820_530_830] TS830S No RiF output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-10 17:59:34 UTC
From: W5RKL
Topic: 49266 Message: 49278

Craig,

If you look at his screen voltage measurement, pin 3, he indicates the screen voltage is 235VDC which indicates the SG switch is in the ON position and the final amplifier is in transmit. IF the SG switch was in the "OFF" position then the voltage on pin 3, 6146 screen, would indicate approximately -100VDC. The normal standby screen voltage is approximately +255VDC to +260VDC. When the 6146 tubes begins to conduct the screen voltage decreases due to current flowing in the 6146 screen circuit which results in a voltage drop to occur in the 6146 screen circuit, hence a reduction in screen voltage.

Now the cathode voltage, 0VDC on pin 1, he indicates does not agree with current flowing in the 6146, that's why I asked him to measure the voltages again.

I have a video on my website that explains in detail how the TS-830 SG switch circuit works

http://w5rkl.com/wp-content/uploads/2014/03/Function-of-the-TS830-SG-switch.wmv

73
Mike W5RKL

On 7/10/2014 12:55 AM, Craig Roberts crgrbrts@...
[TS-520_820_530_830] wrote:
>
> Is the SG switch on the back of your radio ON?
>
> 73,
>
> Craig
> W3CRR
>
>
>
> On July 9, 2014, at 20:51, "allen3500@...
> [TS-520_820_530_830]" wrote:
>
> I am having a Senior moment here. I cannot, for the life of me,
> located the place where I'm losing Drive in this TS830S.
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> indication on the radio's meter.
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> 0VDC PIN6 0VDC
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> 247VDC PIN8 219VDC
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> 0VDC PIN9 0VDC
>
>
> *_6146B Finals_*
>
> *_
> _*
>
> 0VDC PIN1 0VDC
>
> 12.8VAC PIN2 12.7VAC
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> 254VDC PIN3 238VDC

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> 0VDC PIN4 0VDC
>
> 102.7 PIN5 -60
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> 0VDC PIN6 0VDC
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49279. Re: [TS-520_820_530_830] TS830S No RF output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-10 18:25:12 UTC
From: W5RKL
Topic: 49264 Message: 49279

By the way, the 6146 pin 1 (cathode), pin 4 (beam forming element) and pin 6 (other side of the cathode) are ALL connected together, "internally" in the 6146 tube AND connected together on the TS-520 point to point wiring and the TS-520S/TS-520SE, TS-820, TS-530, and TS-830 Final Unit PC boards.

I have a video on my website that explains how the 6146 beam forming element works and how it forms the electrons, as they flow from the cathode, into sheets of electrons focused at the plate. The video also show the schematic diagram of the 6146 tube and that the beam forming element, pin 4, is connected back to the cathode.

Pin 8 is connected to the metal band around the base of the 6146. Pin 8 is typically connected to ground so there will be no voltage on this pin.

Pin 2 and 7 are the filament connections. The KW hybrids have the 6146 filaments wired in "series" so pin 2 of V1, the front 6146, will have 12VAC and V1's pin 7 AND V2s pin 2 will have 6.3VAC. V2's pin 7 will be "grounded", completes the filament circuit, so it will have zero volts.

73
Mike W5RKL

On 7/10/2014 12:50 PM, W5RKL w5rkl@... [TS-520_820_530_830] wrote:
>
> Jim,
>
> Based on the 6146 voltage indications, especially pins 1 and 5, here
> is what I think.
>
> 1. You said the IP meter indicates 60ma.
> 2. You said the voltage on the 6146 grids, pin 5 on both tubes, is -60VDC.
>
> You cannot have 60ma of IP idling current in transmit if the 6146
> cathode voltages (pin 1 on both 6146 final tubes) is 0VDC. You
> indicate the 6146 grid voltage is -60VDC which indicates the
> transmitter is keyed.
>
> Having -60VDC on the 6146 final tubes pin 5, the 6146 grid, indicates
> the bias circuit is switching properly from standby to transmit. The
> typical 6146 grid voltage, in standby/receive, is approximately -101VDC.
>
> I think you need to perform the final tube voltage measurements again
> in both transmit and receive.
>
> 73

> Mike W5RKL
>
>
>
>
>
>
> On 7/9/2014 7:51 PM, allen3500@... [TS-520_820_530_830] wrote:
>>
>> I am having a Senior moment here. I cannot, for the life of me,
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>>
>> *_
>> _*
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>> 0VDC PIN1 0VDC
>>
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>> 254VDC PIN3 238VDC
>>
>> 0VDC PIN4 0VDC
>>
>> 102.7 PIN5 -60
>>
>> 0VDC PIN6 0VDC
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>>
>> 926VDC Plate 871VDC
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>>
>> I seem to be losing drive somewhere.
>>
>> FYI - I have checked C1 on the Final board and replaced the cathode
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>> I have resoldered the tube socket connections on the RF Board, and
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>> Jim wb5twc
>>

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49280. Re: [TS-520_820_530_830] TS830S No RiF output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-10 18:31:01 UTC
From: Craig Roberts
Topic: 49266 Message: 49280

Good point, Mike. I think I wrote that at about 2 o'clock in the morning without thinking it through.

I had a fitful 530S last year that transmitted intermittently until I traced the fault to a glitchy SG switch. This became my knee jerk "go to" troubleshooting step, kinda like turning your computer off than back on :-)

73!

Craig
W3CRR

49281. expert servicing of TS-830S ?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-11 00:20:01 UTC
From: ve3pie@...
Topic: 49281 Message: 49281

I would like to send my TS-830S and ext VFO and station monitor to someone with expertise in repair, alignment, and cosmetic repair.
can someone recommend somebody ?
who is the GURU of repair these days ?

thanks, Fred

49282. Re: TS830S No RF output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-10 16:23:07 UTC
From: allen3500@...
Topic: 49264 Message: 49282

OK you are saying that you have good 900vdc at anodes of the tubes and you have good SG voltage and you have RF drive, but no RF relative power indication and no RF output on external wattmeter. Is this correct?

Terry, I DO have good 900+ plate voltage at the anodes. I DO have good SG voltage, BUT I seem to be losing RF Drive somewhere.

If you place the SG switch in off and in CW Mode and flip to Send with CAR level pot full CW can you peak the ALC indication? If so, you have good rf drive voltage swing at the 6146 control grids and proper operating bias voltage.

I have NO ALC indication regardless of SG switch position. I DO have proper operating BIAS, measured a the 6146 sockets with tubes installed, BUT I seem to be losing the RF drive prior to reaching the 6146 control grid.

Unless I'm, losing my mind, I don't think I am getting any RF drive from the RF Board. I replaced the 12BY7A with a known good tube to no avail, and the voltage numbers at the tube seem to be acceptable.

Jim

49283. Re: TS830S No RF output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-10 18:36:22 UTC
From: allen3500@...
Topic: 49264 Message: 49283

Hi Mike!

You cannot have 60ma of IP idling current in transmit if the 6146 cathode voltages (pin 1 on both 6146 final tubes) is 0VDC. You indicate the 6146 grid voltage is -60VDC which indicates the transmitter is keyed.

I agree. As I indicated in my original posting, I have -102 in receive and -60 in transmit on pin#5 of both tubes.
It appears that the BIAS circuit is switching properly.
As you know, pins #1, #4, and #6 are all tied together.
I rechecked the voltages and I am seeing 0VDC in both receive and transmit.
I'm guessing that in transmit pin #1 should be a couple of volts DC? The zero voltage readings in transmit is what originally led me to believe that I had lost drive prior to reaching the 6146 finals, or am I way off base here?
What should I be seeing on pin #1 in transmit with drive and/or without drive?

Thanks for looking at this for me.
Maybe you and Terry can get me back on track.

Cheers!
Jim wb5twc

49284. Re: [TS-520_820_530_830] expert servicing of TS-830S ?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-11 00:38:28 UTC
From: Mark Allendorf
Topic: 49281 Message: 49284

Terry K9TW. Go to www.k9tw.com.

Mark KM4AHP
On Jul 10, 2014 8:20 PM, "ve3pie@... [TS-520_820_530_830]" <
TS-520_820_530_830@yahoogroups.com> wrote:

>
>
> I would like to send my TS-830S and ext VFO and station monitor to someone
> with expertise in repair, alignment, and cosmetic repair.
>
> can someone recommend somebody ?
>
> who is the GURU of repair these days ?
>
>
> thanks, Fred
>
>

49285. Re: [TS-520_820_530_830] expert servicing of TS-830S ?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-11 02:38:54 UTC
From: synovial_98@yahoo.com
Topic: 49281 Message: 49285

I asked K4EAA (since he no longer services rigs) who he'd recommend. He pointed me to www.oldhamdave.com

73,
Ken
WB4EJZ

Sent from Yahoo Mail on Android

49286. Re: [TS-520_820_530_830] Re: TS830S No RF output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-11 03:34:21 UTC
From: W5RKL
Topic: 49264 Message: 49286

Jim,

If the 6146 cathode circuit is open, which it appears to be especially since you indicate the 6146 pin 1 (cathode) voltage is 0VDC, it's impossible for the IP meter to indicate 60ma in TX.

Have you checked the final amplifier cathode resistors, there are 4 of them, 20 ohm 1/2 watt each. Connect your ohm meter's RED lead to pin 1 and the BLACK lead to the chassis, the ohm meter should show approximately 5 ohms. If the meter shows "infinity" then the cathode circuit is open which is why the cathode voltage in TX is 0VDC.

By the way, I forgot to mention before. If the 6146 cathode voltage IS actually 0VDC then the screen voltage will be closer to +255VDC instead of +235VDC and the HV measured at the 6146 plate caps will be closer to +920VDC.

I think you have final amplifier cathode circuit issues, not loss of RF drive in your 830. You need to check the 6146 cathode resistors to see what is going on there. Connect your ohm meter RED lead to pin 1 and BLACK lead to the chassis, the ohm meter should indicate approximately 5 ohms. If the ohm meter indicates "infinity" then the cathode circuit is OPEN which is why the cathode voltage in tX is 0VDC.

73
Mike W5RKL

On 7/10/2014 1:36 PM, allen3500@... [TS-520_820_530_830] wrote:
>
> Hi Mike!
>
> You cannot have 60ma of IP idling current in transmit if the 6146
> cathode voltages (pin 1 on both 6146 final tubes) is 0VDC. You
> indicate the 6146 grid voltage is -60VDC which indicates the
> transmitter is keyed.
>
> I agree. As I indicated in my original posting, I have -102 in receive
> and -60 in transmit on pin#5 of both tubes.
> It appears that the BIAS circuit is switching properly.
> As you know, pins #1, #4, and #6 are all tied together.
> I rechecked the voltages and I am seeing 0VDC in both receive and
> transmit.
> I'm guessing that in transmit pin #1 should be a couple of volts DC?
> The zero voltage readings in transmit is what originally led me to
> believe that I had lost drive prior to reaching the 6146 finals, or am
> I way off base here?

> What should I be seeing on pin #1 in transmit with drive and/or
> without drive?
>
> Thanks for looking at this for me.
> Maybe you and Terry can get me back on track.
>
> Cheers!
> Jim wb5twc
>
>

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49287. RE: [TS-520_820_530_830] Re: TS830S No RF output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-11 05:31:37 UTC
From: fpath fpath
Topic: 49264 Message: 49287

Jim,

Are you using an external watt meter or are you relying on radio meter?? (sorry if you have already mentioned or answered this question.

73s

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: TS-520_820_530_830@yahoogroups.com
Date: Thu, 10 Jul 2014 22:34:21 -0500
Subject: Re: [TS-520_820_530_830] Re: TS830S No RF output

Jim,

If the 6146 cathode circuit is open, which it appears to be especially since you indicate the 6146 pin 1 (cathode) voltage is 0VDC, it's impossible for the IP meter to indicate 60ma in TX.

Have you checked the final amplifier cathode resistors, there are 4 of them, 20 ohm 1/2 watt each. Connect your ohm meter's RED lead to pin 1 and the BLACK lead to the chassis, the ohm meter should show approximately 5 ohms. If the meter shows "infinity" then the cathode circuit is open which is why the cathode voltage in TX is 0VDC.

By the way, I forgot to mention before. If the 6146 cathode voltage IS actually 0VDC then the screen voltage will be closer to +255VDC instead of +235VDC and the HV measured at the 6146 plate caps will be closer to +920VDC.

I think you have final amplifier cathode circuit issues, not loss of RF drive in your 830. You need to check the 6146 cathode resistors to see what is going on there. Connect your ohm meter RED lead to pin 1 and BLACK lead to the chassis, the ohm meter should indicate approximately 5 ohms. If the ohm meter indicates "infinity" then the cathode circuit is OPEN which is why the cathode voltage in tX is 0VDC.

73
Mike W5RKL

On 7/10/2014 1:36 PM, allen3500@... [TS-520_820_530_830] wrote:

Hi Mike!

You cannot have 60ma of IP idling current in transmit if the 6146 cathode voltages (pin 1 on both 6146 final tubes) is 0VDC. You indicate the 6146 grid voltage is -60VDC which indicates the transmitter is keyed.

I agree. As I indicated in my original posting, I have -102 in receive and -60 in transmit on pin#5 of both tubes.
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Cheers!
Jim wb5twc

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49288. Re: [TS-520_820_530_830] Re: TS830S No RF output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-11 13:19:54 UTC
From: Mike W5RKL
Topic: 49264 Message: 49288

Guys, a watt meter or the SG switch, at the moment, has nothing to do with Jim's problem.

Jim clearly stated he has no plate current AND no ALC indication. He incorrectly stated he has "60ma bias". There is no such thing as 60ma of bias.

Jim also provided a list of 6146 receive and transmit voltages that he measured at the base of the 6146s. The voltages on the left are with the 830 in receive and the voltages on the right are with the 830 in transmit.

Look at the 6146 transmit "cathode voltage", pin 1, Jim says it is "0VDC". Couple that with Jim's statement that says there is no plate current and you would know there will be NO ALC, no screen current, and NO plate current in transmit!!

For now I believe Jim's problem is not a loss of RF drive from the driver but rather a failure in the TS-830's 6146 final amplifier cathode circuit. I base this on the 6146 cathode voltage of 0VDC in transmit AND Jim's "no plate current" comment.

Jim says he has 60ma of bias. There is no such thing as 60ma of bias. The "60ma' is current flowing in the 6146 between the cathode, screen, and plate. This is based on the bias voltage set by the bias pot.

73
Mike W5RKL

On 7/11/2014 12:31 AM, fpath fpath fpath@...
[TS-520_820_530_830] wrote:
>
> Jim,
>
> Are you using an external watt meter or are you relying on radio
> meter?? (sorry if you have already mentioned or answered this question.
>
> 73s
> Dave
> VK5PDL
>
> ---
> To: TS-520_820_530_830@yahoogroups.com
> From: TS-520_820_530_830@yahoogroups.com
> Date: Thu, 10 Jul 2014 22:34:21 -0500
> Subject: Re: [TS-520_820_530_830] Re: TS830S No RF output
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> Jim,

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> approximately 5 ohms. If the ohm meter indicates "infinity" then the
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> Mike W5RKL
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> <mailto:allen3500@...> [TS-520_820_530_830] wrote:
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> I rechecked the voltages and I am seeing 0VDC in both receive and
> transmit.
> I'm guessing that in transmit pin #1 should be a couple of volts

> DC? The zero voltage readings in transmit is what originally led
> me to believe that I had lost drive prior to reaching the 6146
> finals, or am I way off base here?
> What should I be seeing on pin #1 in transmit with drive and/or
> without drive?
>
> Thanks for looking at this for me.
> Maybe you and Terry can get me back on track.
>
> Cheers!
> Jim wb5twc
>
>
>
>
> ---
> <http://www.avast.com/>
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>

49289. Re: [TS-520_820_530_830] Re: TS830S No RF output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-11 17:05:09 UTC
From: W5RKL
Topic: 49264 Message: 49289

Jim,

I agree, the 6146 tube sockets AND 6146 tube pins 1, 4, and 6, are all tied together both internally in the tube itself AND by point to point wiring in the TS-520 6146 tube socket as well as the 6146 tube sockets mounted on the PC boards in the TS-520S, TS-520SE, TS-820, TS-820S, TS-530, and TS-830.

What's important is to understand why pin 4, the Beam Forming element, is tied back to the cathode and what affect that has on the overall operation in the 6146 Beam Power Tetrode. What does the Beam Forming element actually do and how does it accomplish its task? Below is a short explanation of what the Beam Forming element in the 6146 does. It's also covered in the tube manual as well as in John T. Fryes, "Basic Radio Course" book.

The Beam Forming element, pin 4, when connected back to the 6146's cathode, whether internal or external at the tube socket pins or pc board wiring, makes the Beam Forming element have the same potential as the cathode, negative in respects to the plate. As the electrons flow from the cathode towards the plate, some attach themselves and flow in the 6146 screen circuit while the rest continue on towards the plate. As they pass by the Beam Forming element, the negative potential of the Beam Forming element repels the electrons into "beams of electrons" focused directly at the plate. I have a video that explains how the beam forming element in the 6146 works. You can find it on my website at:

http://w5rkl.com/basic-electronic-videos-2/

Scroll down the page page and click on "The 6146 Beam Power Tube" video

I have a couple of RCA tube manuals that discuss, in detail, basic and advance vacuum tube theory as well as teach you how to interpret vacuum tube graphs. You can't proper service a vacuum tube circuit if you do not understand how vacuum tubes work and how the voltages affect the overall operation of the tube itself!

http://w5rkl.com/manuals-and-documents/

Scroll down the page to the listing titled

/*"Low and High power receive and transmit vacuum tube manuals and documents"*/

I recommend you download the tube manual and spend some time studying and learning how vacuum tubes works. You can't proper service a vacuum tube circuit if you do not understand how a vacuum tube works and what

the various voltages are for.

73
Mike W5RKL

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http://www.avast.com

49290. Re: TS830S No RF output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-11 19:39:19 UTC
From: allen3500@...
Topic: 49264 Message: 49290

Mike, Terry, et al,
Thanks for the help.

73,
Jim wb5twc

49291. Re: [TS-520_820_530_830] Re: TS830S No RF output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-11 19:56:08 UTC
From: Mike W5RKL
Topic: 49264 Message: 49291

You're welcome Jim. If you would please, let us know what you find as the source of your problem.

73
Mike W5RKL

On 7/11/2014 2:39 PM, allen3500@... [TS-520_820_530_830] wrote:
>
> Mike, Terry, et al,
>
> Thanks for the help.
>
>
> 73,
>
> Jim wb5twc
>
>

49292. Re: [TS-520_820_530_830] Re: TS-830s pll problem on 14 & 18 mhz band

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-11 23:55:26 UTC
From: Rob
Topic: 49240 Message: 49292

The depth of information on this forum from the experts all the way through to budding enthusiasts is astounding. I am very appreciative of the time and effort that goes into all the questions and responses. Learning so much. Thanks to all who take the time to contribute!

John, wa3jrs

> On Jul 9, 2014, at 2:22 PM, "k0sjs@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:
>
> Terry,
>
>
>
> OK - I have a lot to digest here since I have forgotten most of this stuff since tech school in the late 70's. I worked on mainframes for Sperry/Univac and that was very little analog theory. This stuff really sparks my interest though. Just getting back into HAM radio and was more attracted to these old hybrids vs the new stuff. I will go with the info you have given me and my limited test bench. When I fix this or if I get jammed up, I will email you directly. Thanks soooo much for the assistance. I will also post here on the group the final fix.
>
>
>
> Take care
>
>
>
> Steve K0SJS
>
>

49293. TS-520 Transmitter Issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-12 20:55:17 UTC
From: aa6vx@...
Topic: 49293 Message: 49293

RE: TS-520 S/N 510281

Hello. I have been watching and studying this group for several months and using it to do my troubleshooting. This group helped me get my TS-830 back online. But with my old TS-520, I think I am at an impasse for my level of experience. I have had this 520 for over 30 years and it has served me well. It just recently developed transmitter issues on 10M first and now on 15M as well. First, I was not getting the ALC movement on 10M with TUNE but it is now happening on 15M. I now need to have the Carrier control fully CW to Tune with ALC on all the bands. I swapped out the 12BY7 as well as the finals with with no change in behavior. I suspect the Band switch or Driver Coil board. The switch wafers look more robust than the later hybrids but the RF deck in general looks like a bear to remove and work on. Does 520's have wafer rivet problems like the others? I would like to nail this as best as I can before I take it apart. I don't want to shot gun anymore especially if the RF board is apart.

Mods:
Installed a Fox Tango CW Filter using the Channel Select control to switch in and out (I installed this many years ago while in high school).

I recently replaced the caps and resistors under the final tube sockets minus the parasitic-suppressors.

From K4EAA, I replaced the HV filter caps as well as the screen and driver filter caps. I have the final cage kit but have not performed it yet.

Any help would be appreciated.

Thank you.

Rich, AA6VX

Here are my vitals:

Output power:
80M 125w
40M 120w
20M 120w
15M 50w - No ALC in Tune
10M 5w

12BY7 Driver:
R T
Pin 1 .4 vdc 5.3 vdc
Pin 2 -38 vdc .4 5vdc
Pin 3 0 0
Pin 4 0 0
Pin 5 12.7 vac 12.7 vac

Pin 6 0 0
Pin 7 328 vdc 300 vdc
Pin 8 249 vdc 223vdc

6146B Finals:
R T
Pin 1 0 0
Pin 2 12.7 vac 12.7 vac
Pin 3 -118 vdc -97vdc
Pin 4 0 0
Pin 5 -92.5vdc -61.2vdc
Pin 6 0 0
Pin 7 6.25vac 6.25vac
Pin 8 0 0
Plate (V1) 940 800
Plate (V2) 960 818

Final V1 pin 5 swing:

80M 80 Vp-p
40M 80 Vp-p
20M 33 Vp-p
15M 20 Vp-p
10M 20 Vp-p

RF Board Measurements:

DP/DRV:
Output power on 5/17/2014
80M 160 Vp-p
40M 60 Vp-p
20M 30 Vp-p
15M 20 Vp-p
10M 20 Vp-p

MD (RF Probe):
80M 1.78 Vrms
40M 2.7 Vrms
20M 1.8 Vrms
15M 1.49Vrms
10M 1.14 Vrms

Q3 Het Mixer (Transmit):
RF Probe DVM
D 1.8 Vrms 13.6 Vdc
G1 1.3 Vrms 2.5 Vdc

G2 .5 Vrms 2.5 Vdc

49294. Re: [TS-520_820_530_830] TS-520 Transmitter Issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-12 22:12:25 UTC
From: W5RKL
Topic: 49293 Message: 49294

Rich,

The first 3 things that jumps out at me are the 6146 "TX" cathode voltages, pin 1, the 6146 screen voltages, pin 3, and the 6146 HV.

First, you say the 6146 screen voltage is -108VDC in RX then dropping to -97VDC in TX. That tells me there is a "negative" DC voltage applied to the 6146 screens possibly caused by the SG switch set to the OFF position. No current will flow in the 6146 final tubes with a negative voltage applied to the 6146 screen (SG switch set to OFF) and this includes the absences of 60ma idling current in USB or LSB TX on any band.

Second, you say the 6146 cathode voltage, pin 1, is "0VDC". while a negative voltage applied to the 6146 screen will prevent current flow in the 6146 screen and plate circuit, it does NOT prevent grid current (ALC) from flowing when the grids of the 6146 are positive (caused by the positive half of the RF drive sine wave being positive).

Lastly, you say the 6146 HV is +960VDC in RX, dropping to +818VDC in TX. That's not possible with a negative voltage applied to the 6146 screens. A negative voltage applied to the 6146 screen will prevent any current to flow in the 6146 plate circuit therefore the 6146 plate HV in TX will be the same 6146 plate HV as in RX, no voltage drop will occur in the 6146 plate circuit, hence TX HV will be +960VDC not +818VDC.

I would check the SG switch to ensure it is in the ON position, check the 6146 screen voltage to ensure it is a "positive" voltage of approximately +255VDC, then check the 6146 plate voltage. Check to ensure the USB or LSB TX IP idling current is set for 60ma. If 60ma is showing on the meter (meter switch set to IP), in USB/LSB TX, then the 6146 cathode voltage will be approximately .3VDC or 300mv. If you have 60ma indicated on the IP meter but your DC volt meter indicates 0VDC on the 6146 socket, pin 1, then your DC volt meter is bad, probably out of calibration.

73
Mike W5RKL

On 7/12/2014 3:55 PM, aa6vx@... [TS-520_820_530_830] wrote:
>
> RE: TS-520 S/N 510281
>
> Hello. I have been watching and studying this group for several months
> and using it to do my troubleshooting. This group helped me get my
> TS-830 back online. But with my old TS-520, I think I am at an impasse
> for my level of experience. I have had this 520 for over 30 years and
> it has served me well. It just recently developed transmitter issues

> on 10M first and now on 15M as well. First, I was not getting the ALC
> movement on 10M with TUNE but it is now happening on 15M. I now need
> to have the Carrier control fully CW to Tune with ALC on all the
> bands. I swapped out the 12BY7 as well as the finals with with no
> change in behavior. I suspect the Band switch or Driver Coil board.
> The switch wafers look more robust than the later hybrids but the RF
> deck in general looks like a bear to remove and work on. Does 520's
> have wafer rivet problems like the others? I would like to nail this
> as best as I can before I take it apart. I don't want to shot gun
> anymore especially if the RF board is apart.
>
> Mods:
>
> Installed a Fox Tango CW Filter using the Channel Select control to
> switch in and out (I installed this many years ago while in high school).
>
> I recently replaced the caps and resistors under the final tube
> sockets minus the parasitic-suppressors.
>
> From K4EAA, I replaced the HV filter caps as well as the screen and
> driver filter caps. I have the final cage kit but have not performed
> it yet.
>
>
> Any help would be appreciated.
>
>
> Thank you.
>
>
> Rich, AA6VX
>
> Here are my vitals:
>
> Output power:
>
> 80M 125w
>
> 40M 120w
>
> 20M 120w
>
> 15M 50w - No ALC in Tune
>
> 10M 5w
>
> 12BY7 Driver:
>
> R T
>

> Pin 1 .4 vdc 5.3 vdc
>
> Pin 2 -38 vdc .4 5vdc
>
> Pin 3 0 0
>
> Pin 4 0 0
>
> Pin 5 12.7 vac 12.7 vac
>
> Pin 6 0 0
>
> Pin 7 328 vdc 300 vdc
>
> Pin 8 249 vdc 223vdc
>
> 6146B Finals:
>
> R T
>
> Pin 1 0 0
>
> Pin 2 12.7 vac 12.7 vac
>
> Pin 3 -118 vdc -97vdc
>
> Pin 4 0 0
>
> Pin 5 -92.5vdc -61.2vdc
>
> Pin 6 0 0
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>
> Pin 8 0 0
>
> Plate (V1) 940 800
>
> Plate (V2) 960 818
>
> Final V1 pin 5 swing:
>
> 80M 80 Vp-p
>
> 40M 80 Vp-p
>
> 20M 33 Vp-p
>
> 15M 20 Vp-p
>

> 10M 20 Vp-p
>
> RF Board Measurements:
>
> DP/DRV:
>
> Output power on 5/17/2014
>
> 80M 160 Vp-p
>
> 40M 60 Vp-p
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> MD (RF Probe):
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> 40M 2.7 Vrms
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> 20M 1.8 Vrms
>
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>
> Q3 Het Mixer (Transmit):
>
> RF Probe DVM
>
> D 1.8 Vrms 13.6 Vdc
>
> G1 1.3 Vrms 2.5 Vdc
>
> G2 .5 Vrms 2.5 Vdc
>
>
>

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49295. Re: [TS-520_820_530_830] TS-520 Transmitter Issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-12 22:25:43 UTC
From: Wes Will
Topic: 49293 Message: 49295

On 07/12/2014 03:55 PM, aa6vx@... [TS-520_820_530_830] wrote:

For curiosity, what's the voltage (VTVM, RF probe) on the RF board at TP-1? Ought to be about 2V, by the schematic.

Also measure run the TX level diagram voltages, band switch on 10M (set the VFO somewhere in the middle of the range), the RF drive levels at TIF, the TX Mixer output, 12BY7 plate output, and 6146 control grid input. Watch yourself getting these measurements, high voltage procedures, be careful not to eat some B+.

--
Wes Will
N9KDY

49296. Re: [TS-520_820_530_830] TS-520 Transmitter Issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-12 22:28:46 UTC
From: W5RKL
Topic: 49293 Message: 49296

I forgot to include this.

Since there is a negative voltage applied to the 6146 screens, a current will not flow in the 6146 screens circuit. Therefore, with no current flowing in the 6146 screens there will be no voltage drop in the 6146 screens circuit, hence the negative voltage on the 6146 screens will be the same in TX as it is in RX.

73
Mike W5RKL

On 7/12/2014 5:12 PM, W5RKL w5rkl@... [TS-520_820_530_830] wrote:
>
> Rich,
>
> The first 3 things that jumps out at me are the 6146 "TX" cathode
> voltages, pin 1, the 6146 screen voltages, pin 3, and the 6146 HV.
>
> First, you say the 6146 screen voltage is -108VDC in RX then dropping
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> the OFF position. No current will flow in the 6146 final tubes with a
> negative voltage applied to the 6146 screen (SG switch set to OFF) and
> this includes the absences of 60ma idling current in USB or LSB TX on
> any band.
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> the positive half of the RF drive sine wave being positive).
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> Lastly, you say the 6146 HV is +960VDC in RX, dropping to +818VDC in
> TX. That's not possible with a negative voltage applied to the 6146
> screens. A negative voltage applied to the 6146 screen will prevent
> any current to flow in the 6146 plate circuit therefore the 6146 plate
> HV in TX will be the same 6146 plate HV as in RX, no voltage drop will
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> the 6146 screen voltage to ensure it is a "positive" voltage of
> approximately +255VDC, then check the 6146 plate voltage. Check to
> ensure the USB or LSB TX IP idling current is set for 60ma. If 60ma is
> showing on the meter (meter switch set to IP), in USB/LSB TX, then the
> 6146 cathode voltage will be approximately .3VDC or 300mv. If you have
> 60ma indicated on the IP meter but your DC volt meter indicates 0VDC

> on the 6146 socket, pin 1, then your DC volt meter is bad, probably
> out of calibration.
>
>
> 73
> Mike W5RKL
>
>
>
>
> On 7/12/2014 3:55 PM, aa6vx@... [TS-520_820_530_830] wrote:
>>
>> RE: TS-520 S/N 510281
>>
>> Hello. I have been watching and studying this group for several
>> months and using it to do my troubleshooting. This group helped me
>> get my TS-830 back online. But with my old TS-520, I think I am at an
>> impasse for my level of experience. I have had this 520 for over 30
>> years and it has served me well. It just recently developed
>> transmitter issues on 10M first and now on 15M as well. First, I was
>> not getting the ALC movement on 10M with TUNE but it is now happening
>> on 15M. I now need to have the Carrier control fully CW to Tune with
>> ALC on all the bands. I swapped out the 12BY7 as well as the finals
>> with with no change in behavior. I suspect the Band switch or Driver
>> Coil board. The switch wafers look more robust than the later hybrids
>> but the RF deck in general looks like a bear to remove and work on.
>> Does 520's have wafer rivet problems like the others? I would like to
>> nail this as best as I can before I take it apart. I don't want to
>> shot gun anymore especially if the RF board is apart.
>>
>> Mods:
>>
>> Installed a Fox Tango CW Filter using the Channel Select control to
>> switch in and out (I installed this many years ago while in high school).
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>> I recently replaced the caps and resistors under the final tube
>> sockets minus the parasitic-suppressors.
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>> From K4EAA, I replaced the HV filter caps as well as the screen and
>> driver filter caps. I have the final cage kit but have not performed
>> it yet.
>>
>>
>> Any help would be appreciated.
>>
>>
>> Thank you.
>>
>>
>> Rich, AA6VX

>>
>> Here are my vitals:
>>
>> Output power:
>>
>> 80M 125w
>>
>> 40M 120w
>>
>> 20M 120w
>>
>> 15M 50w - No ALC in Tune
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>> 10M 5w
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>> 12BY7 Driver:
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>> R T
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>> Pin 1 .4 vdc 5.3 vdc
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>>
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>> Pin 7 328 vdc 300 vdc
>>
>> Pin 8 249 vdc 223vdc
>>
>> 6146B Finals:
>>
>> R T
>>
>> Pin 1 0 0
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>>
>> Pin 6 0 0

>>
>> Pin 7 6.25vac 6.25vac
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>> Plate (V1) 940 800
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>> 80M 80 Vp-p
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>>
>> RF Probe DVM
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>> D 1.8 Vrms 13.6 Vdc
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>>
>> G2 .5 Vrms 2.5 Vdc
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49297. Re: TS-520 Transmitter Issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-13 00:40:17 UTC
From: wagstw46@...
Topic: 49293 Message: 49297

Your RF drive levels at input of Q3 TX Mixer look good. Maybe a little strong at TP-2 but OK.

Your levels of RF drive at output of Q3 at MD are not good on the higher bands. That can be due to the TX Mosfet Mixer Drain and the 12BY7A Control Grid not seeing the Mixer tuned circuits being switched in by the bandswitch or high resistance in the path.

Your RF drive levels at DP (plate of the 12BY7A driver tube) are low with exception of 80 meters. You should easily see around 160v P-P on 20 meters. If 80 was as low as the others I would tell you to try another driver tube and to measure the Driver tube dc voltages with emphasis on the Screen Grid. Having normal RF drive levels on 80 would seem to rule out bad driver tube and off spec DC voltages at the tube socket. Of course if you have low RF drive at the control grid of the Driver tube and normal dc voltages then it stands to reason that you will have low RF output in the plate circuit.

With normal operating bias voltage on the control grids of the 6146 finals (around -55 to -60vdc) you wont see good ALC indication unless you have around 45 rms rf volts at Pin 5. At 39 rms rf volts or lower will have transmit output, but no ALC indication. A lot of people live with this on 10 meters and think it is normal and of course it is not. It is common but not normal.

One thing you can try on 15 or 10 meters is to adjust T1 on the RF board to see if you can get some more RF drive. This transformer is part of the TX BPF so make note if its position so you can reset it if adjusting it doesnt improve RF drive levels on the higher bands. Adjusting it often makes difference between no and some ALC indication on 10 meters.

Also, it is normal for RF drive to fall off starting on 10 meters with these 12BY7A tubes as they are running full tilt in Class A. At some point in life span will start to notice this. Are you certain that you have a good spare?

Not as common to have bad bandswitch contacts on the TS520 as the later rigs, but a good idea to clean all the contacts especially on the Mixer and Drive coil hanging boards. I do that with a artist brush wetted with De0xit.

Terry K9TW

49298. Ruminations on Switch and Relay Contact Cleaning

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-13 03:23:43 UTC
From: Wes Will
Topic: 49293 Message: 49298

To get past the obvious bits:

I. I use deOxit D5 and F5 for switches and potentiometers.

II. I use a small foam applicator or a small brush after spraying a minimal amount into a 'watch glass.' (A piece of lab-ware, you might remember them if you took more than one semester of chemistry.)

III. The chemical alone does a pretty fair job, if you apply it two or three times and 'exercise' the switch or the pot.

IV. Some sort of mechanical aid ought to be able to assist WITHOUT mucking up the contacts, which is MY most feared outcome of actually touching a band switch or similar. (I cleaned up a VTVM that a friend found in his tool shed, stored in there for over two decades, maybe more than three. A good cleaning, LOTS of corrosion and a 'stuck' ohms adjust pot worked free and cleaned thoroughly, and it is even almost dead-on CALIBRATED, all ranges and modes. I do LOVE these old boat-anchors.)

V, Has anyone tried one of these:

http://www.mcmelectronics.com/product/JONARD-OB-1-3-/22-1235

I'd be curious if they worked, or how well they worked anyway. If you know they're rubbish, please say so. If nobody has tried one, I'll be ordering a sample, and let you know how well it does once I get it.

--
Wes Will
N9KDY

49299. Re: Ruminations on Switch and Relay Contact Cleaning

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-13 12:09:12 UTC
From: wagstw46@...
Topic: 49293 Message: 49299

I have used Diamond contact burnishing tools for years. I apply the Deoxit to it. Just dont want to use files, emory boards or any real abrasives. I havent used this particular one but it looks similar. My tool is the Jonard version that has replaceable diamond coated blades. If you go to Jonards website and seach under Pocket Burnishers you will see it and the replacement blades.

Amazon sells same version of this MCM one you are asking about but made by GC.

You will get lots of arguments about burnishing relay contacts. Some claim you cannot burnish relay contacts especially in low current applications as it removes the silver or gold flashed coating. I think it is ok if you use good diamond tool and dont go crazy. I have never experienced a problem with burnishing.

I dont burnish bandswitch contacts as hard to access with the tool and very easy to bend contact and loose the contact pressure and wipe.

Terry K9TW

49300. Re: TS-520 Transmitter Issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-13 04:14:29 UTC
From: aa6vx@...
Topic: 49293 Message: 49300

Mike, Terry & Will,

Thanks. I'm grateful for your comprehensive responses. This is exactly what I was looking for. I need to digest them and plan out my next steps. Maybe also re-review Mikes videos and links on the tubes. I'll try and confirm some of the measurements with the Oscope as well so as to make sure we're not going up the wrong tree. BTW..The paragraph on the 6146 pin 5 control grid bias threshold for 10M really scratched an itch for me.

73

Rich, AA6VX

49301. Re: TS-520 Transmitter Issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-13 04:15:32 UTC
From: aa6vx@...
Topic: 49293 Message: 49301

Oh, and obviously. I'll check back in for the next round....Rich, AA6VX

49302. Re: TS-520 Transmitter Issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-13 07:23:15 UTC
From: aa6vx@...
Topic: 49293 Message: 49302

First off I apologize for providing some bad measurements see my later comments. I had some family distractions this morning during my voltage checks.

I have some new subtle developments. After cleaning the contacts, ALC on 15M Tune came alive, but only at ¼ scale. I was able to get 90 watts out on the Bird. Again, the Carrier control must be fully CW (always – I'm nearly resigned at this point to epoxy it there) and as I TUNE the DRIVE for peak ALC in SEND, the needle decays downward.

The rig is still dismal on 10M. For a short time, I got a perky 125W out on both 80M & 40M. But now 80M exhibits the ALC decay as well during TUNE/SEND with dull dips in Ip and <100 watts out. 40M still responds well with good ALC peaking and sharp Ip dips of the PLATE along with 125W out.

I had the SG switch ON for my measurements before. But now I inspected the SG switch and did not like the solder joints on it. I reworked it and checked it with an ohm meter for functionality. I re-measured the tube voltages making sure the SG switch was ON.

I checked to ensure the USB TX IP idling current was set for 60ma. (I had it at 55ma before but adjusted to 60ma now) Then I re-measured the 6146 cathode voltage pin 1 and it was indeed .33 VDC. I had recorded a zero reading before due to my sloppiness.

I checked the 6146 screen voltage with my Fluke DVM and it was a "positive" voltage of +251VDC on Receive and +234 on Transmit. My previous negative measurement was on my VTVM. I'm not sure what is going on there. Maybe I was being sloppy again or distracted. I'll have to check out the polarity on the VTVM.

I checked the 6146 plate voltage:
V1/V2 Plate:
R T
+912 vdc +856 vdc

I checked 6146 pin 5. I don't have a HV RF probe. So I used the DVM and Oscope.
-Fluke: R T
-93 vdc -58 vdc

-Oscope on AC during transmit: 0.350 Vp-p

BTW, I can see no cracked cores in any of the slugs on the coils hanging cards. I did an alignment on the coil boards several months ago per the manual. 10M Drive was the bad actor during that session, of course. It didn't matter where I moved the slug.

The only basis I have for the condition of my spare driver tubes (1 from RF Parts and 1 from K4EAA) is that they all work well in my TS-830S.

I used DeOxit with an artist brush on the band switch contacts. The visible contacts appear in good shape but the contacts between the wafer and the board are impossible to inspect.

Since I had some gross errors in my original recorded measurements, I'll hold off on adjusting RF bd T1 to see your guys' thoughts on this update first.However, I have marked its current clocking.

Thanks again for the help. After many months lurking on this group I'm honored to be at your tutelage.

73

Rich, AA6VX

49303. Re: [TS-520_820_530_830] TS-520 Transmitter Issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-13 07:29:28 UTC
From: aa6vx@...
Topic: 49293 Message: 49303

Wes, I think I did that for 20M but I'll have to look at me notes. I"ll check those next for 10M and let you know.
Thanks Rich, AA6VX

49304. Re: [TS-520_820_530_830] Re: TS-520 Transmitter Issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-13 13:39:26 UTC
From: Mike W5RKL
Topic: 49293 Message: 49304

Rich,

VTVMs have "Positive" and "Negative" DC voltage measurement switch settings. You need to verify you have the VTVM in the correct polarity setting when measuring DC voltages. What make and model of VTVM are you using?

73
Mike W5RKL

49305. Remote VFO-820 causes erratic frequency display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-13 14:54:58 UTC
From: ktschwab@...
Topic: 49305 Message: 49305

I just acquired a VFO-820 for my companion TS-820 (digital display) transceiver. When I use rotate the frequency knob on the remote VFO, the digital frequency display on the TS-820 is not smooth; that is, it is "jittery".

A friend lent me his VFO-820 and it worked perfectly with my TS-820. I am wondering if my remote VFO could somehow use a "shot" of DeOxit inside of the VFO on a particular component inside of the VFO housing? Any ideas?

Thanking all that lend a tip, de KO8S, Karl

49306. Re: TS-520 Transmitter Issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-13 14:57:44 UTC
From: wagstw46@...
Topic: 49293 Message: 49306

ALC decay sure sounds like typical 12BY7A emission issue. Your spare tube may not be any good?

You can also monitor SG voltage on the Driver tube and Finals to make sure it isnt falling off under key down?

Can also monitor RF drive level and see where it is falling off and then focus your dc measurements at that particular stage (TX Mixer , Driver tube, Finals etc).

Terry K9TW

---In TS-520_820_530_830@yahoogroups.com, <aa6vx@...> wrote :

First off I apologize for providing some bad measurements see my later comments. I had some family distractions this morning during my voltage checks.

I have some new subtle developments. After cleaning the contacts, ALC on 15M Tune came alive, but only at ¼ scale. I was able to get 90 watts out on the Bird. Again, the Carrier control must be fully CW (always – I'm nearly resigned at this point to epoxy it there) and as I TUNE the DRIVE for peak ALC in SEND, the needle decays downward.

The rig is still dismal on 10M. For a short time, I got a perky 125W out on both 80M & 40M. But now 80M exhibits the ALC decay as well during TUNE/SEND with dull dips in Ip and <100 watts out. 40M still responds well with good ALC peaking and sharp Ip dips of the PLATE along with 125W out.

I had the SG switch ON for my measurements before. But now I inspected the SG switch and did not like the solder joints on it. I reworked it and checked it with an ohm meter for functionality. I re-measured the tube voltages making sure the SG switch was ON.

I checked to ensure the USB TX IP idling current was set for 60ma. (I had it at 55ma before but adjusted to 60ma now) Then I re-measured the 6146 cathode voltage pin 1 and it was indeed .33 VDC. I had recorded a zero reading before due to my sloppiness.

I checked the 6146 screen voltage with my Fluke DVM and it was a "positive" voltage of +251VDC on Receive and +234 on Transmit. My previous negative measurement was on my VTVM. I'm not sure what is going on there. Maybe I was being sloppy again or distracted. I'll have to check out the polarity on the VTVM.

I checked the 6146 plate voltage:
V1/V2 Plate:
R T
+912 vdc +856 vdc

I checked 6146 pin 5. I don't have a HV RF probe. So I used the DVM and Oscope.
-Fluke: R T
-93 vdc -58 vdc

-Oscope on AC during transmit: 0.350 Vp-p

BTW, I can see no cracked cores in any of the slugs on the coils hanging cards. I did an alignment on the coil boards several months ago per the manual. 10M Drive was the bad actor during that session, of course. It didn't matter where I moved the slug.

The only basis I have for the condition of my spare driver tubes (1 from RF Parts and 1 from K4EAA) is that they all work well in my TS-830S.

I used DeOxit with an artist brush on the band switch contacts. The visible contacts appear in good shape but the contacts between the wafer and the board are impossible to inspect.

Since I had some gross errors in my original recorded measurements, I'll hold off on adjusting RF bd T1 to see your guys' thoughts on this update first.However, I have marked its current clocking.

Thanks again for the help. After many months lurking on this group I'm honored to be at your tutelage.

73

Rich, AA6VX

49307. Re: [TS-520_820_530_830] Remote VFO-820 causes erratic frequency display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-13 15:22:01 UTC
From: Mike W5RKL
Topic: 49305 Message: 49307

Karl,

The "jittery" indication on the 820's digital display is caused by a dirty VFO variable capacitor "shaft to frame" contact point.

The 820's VFO, both external VFO and internal VFO, have a small side panel that is held to the VFO enclosure with 2 Phillips head screws. Loosen one screws then remove the other screw. This will allow you to rotate the small panel so you have access to the variable capacitor's pivot point.

The pivot point connection is a very thin piece of metal that is in the shape of a fork that slides between the capacitor's shaft and the capacitor's frame. This thin piece of metal is fixed/attached to the capacitor's frame on one end and slide between the capacitor's variable shaft and pivot point on the other end. As the capacitor shaft (VFO knob) is rotated, the shaft which has the variable plates attached, is connected to the frame through the thin piece of metal.

The connection point where the thin metal "rubs" against the shaft gets dirty causing intermittent connection between the variable shaft and variable plates and the frame causing intermittent VFO operation.

Perform the following cleaning process with power to the VFO removed by turning the 820 OFF and removing the cable from the rear of the VFO.

DO NOT slide a screw driver or other tool between the shaft and the thin metal piece as you can cause the thin metal piece to bend, or worse break, which can easily worsen the problem.

Read and adhere to the warnings and precautions printed on the DeoXit and Canned air cans BEFORE you use either one!!! Some DeoXit is not flammable but some it so pay attention to the warnings on the can!! It only takes a small spark to ignite flammable DeoXit.

Apply a small amount of DeOxit to the pivot point, just enough to do the job, then rotate the VFO knob throughout it's travel in both direction several times. Use generous amounts of canned air, available at Walmart in their TV/DVD/CD/Cell phone section, to remove any/all dirt/corrosion and cleaner residue. Reconnect the VFO cable and power up the 820 and test for proper VFO operation. If the display is still jittery in some places on the VFO dial, repeat the cleaning process.

Once the cleaning of the VFO has eliminated the jittery VFO, put the place the cover plate back on and install the screw and tighten both screws. Be careful, it's easy to strip the threads of those small screws!!

73
Mike W5RKL

On 7/13/2014 9:54 AM, ktschwab@... [TS-520_820_530_830] wrote:
>
> I just acquired a VFO-820 for my companion TS-820 (digital display)
> transceiver. When I use rotate the frequency knob on the remote VFO,
> the digital frequency display on the TS-820 is not smooth; that is, it
> is "jittery".
>
> A friend lent me his VFO-820 and it worked perfectly with my TS-820.
> I am wondering if my remote VFO could somehow use a "shot" of DeOxit
> inside of the VFO on a particular component inside of the VFO
> housing? Any ideas?
>
> Thanking all that lend a tip, de KO8S, Karl
>

49308. Re: [TS-520_820_530_830] Remote VFO-820 causes erratic frequency display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-13 21:33:02 UTC
From: ktschwab@...
Topic: 49305 Message: 49308

Thanks a million Mike for taking the time to give me the fix in great detail! I will do exactly what you said. I do remember seeing those "fork fingers" in old variable capacitors in radios. Now, knowing exactly what and how to do it, I shouldn't screw anything up!
Regards, Karl, KO8S

49309. 'Normal' ALC on 40/20m, tiny ALC spot for 15m no ALC on 10m

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-13 21:49:36 UTC
From: kevindtimm@...
Topic: 49309 Message: 49309

I bought a TS-520 at the Plano Ham Convention a while back and finally got a chance to setup my shack, antenna (shorty 40 OCFD), etc. I can adjust ALC on 40 and 20m but only have a single tiny spot where I can do so on 15m, nothing at all on 10m. If I swipe the DRIVE back and forth very fast on 15m is when I get an indication on the meter, if I go slow I don't see this. It's pretty difficult to find this spot :)

I have tested the driver and finals, all are good. I also sprayed all the contacts of the band switch with deoxit. It's also been suggested that I test R5 & R6 on the HV unit board, I haven't done so yet.

Since I'm just a tech, this is a bit of a problem if I want to talk (or ever resell the radio). I'm doing all of these steps into a dummy load.

As stated in the group policy/rules, your are required to include your name and call sign (if any), when posting a msg/question to this group.
This msg/post approved as courtesy. 73 Joe wb7uqu, Group Co-owner

49310. Re: 'Normal' ALC on 40/20m, tiny ALC spot for 15m no ALC on 10m

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-13 22:49:04 UTC
From: kevindtimm@...
Topic: 49309 Message: 49310

Sorry for the oversight,

Kevin
K5KDT

49311. Re: [TS-520_820_530_830] 'Normal' ALC on 40/20m, tiny ALC spot for 15m no ALC on 10m

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-13 23:12:23 UTC
From: Joseph Stiles
Topic: 49309 Message: 49311

Kevin-k5kdt,

Congrats on your purchase and getting your shack set up.

Since you did not state..I am guessing that you have "no/little alc in tune" on the higher bands? I doubt that R's 5 & 6 on the HV board are your problem. IF they were, you would probably see the "NO ALC IN TUNE" on all bands. More than likely you have a dying 12by7a driver tube. Testing the driver and or the finals in a tubes tester, will tell you if they are "gassy," have shorts, etc. It will NOT tell you that they will work in the actual RF environment. As many group members will attest: have a KNOWN good driver and KNOWN good finals in the shack.

When monitoring the drive level(ALC) during key down..does the drive(alc) slowly drop down?
If so...probably failing driver tube

While monitoring final plate current " Ip" during key down...does the Ip slowly drop down?
If so...probably weak/failing final amplifier tube(s)

Check your HV(high voltage) using the panel meter..it may not be exact but it will give you an idea.....usually.. any more than a 10-12% drop of voltage when key down usually indicates weak/failing HV capacitor(s)....NOT GOOD.

73 Joe
WB7UQU

On Sunday, July 13, 2014 2:49 PM, "kevindtimm@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>I bought a TS-520 at the Plano Ham Convention a while back and finally got a chance to setup my shack, antenna (shorty 40 OCFD), etc. I can adjust ALC on 40 and 20m but only have a single tiny spot where I can do so on 15m, nothing at all on 10m. If I swipe the DRIVE back and forth very fast on 15m is when I get an indication on the meter, if I go slow I don't see this. It's pretty difficult to find this spot :)
>
>I have tested the driver and finals, all are good. I also sprayed all the contacts of the band switch with deoxit. It's also been suggested that I test R5 R6 on the HV unit board, I haven't done so yet.
>
>Since I'm just a tech, this is a bit of a problem if I want to talk (or ever resell the radio). I'm doing all of these steps into a dummy load.
>

>As stated in the group policy/rules, your are required to include your name and call sign (if any), when posting a msg/question to this group.
>This msg/post approved as courtesy. 73 Joe wb7uqu, Group Co-owner
>
>
>
>

49312. Re: [TS-520_820_530_830] Remote VFO-820 causes erratic frequency display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-14 01:31:43 UTC
From: John Davidson
Topic: 49305 Message: 49312

Jittery VFO tuning /
I would clean the shaft bearings, and clean and try to improve tension on the grounding wipers on the tuning variable capacitor. My TS520 had a similar problem with dead spots when tuning the band.

My radio is Ham Radio...CW is Real Radio
73, John...K8JD

On Sunday, July 13, 2014 5:33 PM, "ktschwab@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Thanks a million Mike for taking the time to give me the fix in great detail! I will do exactly what you said. I do remember seeing those "fork fingers" in old variable capacitors in radios. Now, knowing exactly what and how to do it, I shouldn't screw anything up! Regards, Karl, KO8S

49313. Re: [TS-520_820_530_830] 'Normal' ALC on 40/20m, tiny ALC spot for 15m no ALC on 10m

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-13 23:32:12 UTC
From: Kevin Timm
Topic: 49309 Message: 49313

When monitoring the drive level(ALC) during key down..does the drive(alc) slowly drop down? If so...probably failing driver tube

It does not

While monitoring final plate current " Ip" during key down...does the Ip slowly drop down? If so...probably weak/failing final amplifier tube(s)

It does not

Check your HV(high voltage) using the panel meter..it may not be exact but it will give you an idea.....usually.. any more than a 10-12% drop of voltage when key down usually indicates weak/failing HV capacitor(s)....NOT GOOD.

No change

Kevin
K5KDT

49314. Re: [TS-520_820_530_830] 'Normal' ALC on 40/20m, tiny ALC spot for 15m no ALC on 10m

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-13 23:33:27 UTC
From: Kevin Timm
Topic: 49309 Message: 49314

Sorry, one more thing to add, the reply above with the three messages is on 20M as I get no output on 10m/15m

Kevin
K5KDT

O

this msg edited as it contained already posted material. 73 Joe wb7uqu

49315. Re: [TS-520_820_530_830] Remote VFO-820 causes erratic frequency display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-14 11:50:45 UTC
From: wagstw46@...
Topic: 49305 Message: 49315

Karl:

NO NO NO!

DO NOT follow this hamfisted advice. Do exactly as Mike W5RKL has directed.

The rotor shaft wiper contact is formed and heat treated phosphor bronze and has the proper curvature and spring temper to apply the correct contact pressure (very lite pressure) on the rotor shaft machined face. Any attempt to bend it (besides how would you bend a curved contact that is in contact with a shoulder?) will very likely result in you losing the contact. Some people apply screwdrivers and wooden of plastic tools to press against the contact as they apply the deoxit so it will migrate better between the two faces. I do not recommend that as it is very easy to take the bow or curve out of this contact ruining it. About only way you could get more pressure would be to unsolder and remove the contact, heat it, bend it and re-install it.

The fact is these contacts do not lose their spring temper. They do lose contact pressure due to people sticking tools in and wrecking them.

Also you do not want any rf currrent flowing thru the bearing ball and race. That is the entire reason you have a rotor shaft wiper. RF current thru the bearings would be intermittent at best. They are not intended as a path of RF current. Only time you would need to lube them is if the factory grease has dried out and not common in the TS520. It is a very high quality mechanical construction.

Cardwell in the 30s started with braided pig tails soldered to the rotor shafts and frames and soon abandoned them due to the drag that they presented. They tried carbon brushes and abandoned them due to conductive dust and wear. Phosphor bronze was adopted and shaped and heated to provide the correct spring temper. Phosphor bronze is also sell lubricating. Today BE is used and nickel and silver plating is employed in high power tank capacitors.

About the only way you have lost the spring temper contact pressure is if a previous owner had done just as JD has suggested and attempted to bend the contact. Only other way is if the rotor shaft axial limit adjustment nut has backed off and the rotor has shifted. The nut is secured by white paint and I have never seen one back off. Have seen it on the Plate Load capacitor, but not on any VFOs.

So please disregard this very poor advice and do exactly as Mike has directed. He understands how these things work and how you can address the intermittent condition.

Terry K9TW

49316. Re: 'Normal' ALC on 40/20m, tiny ALC spot for 15m no ALC on 10m

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-14 13:51:49 UTC
From: kevindtimm@...
Topic: 49309 Message: 49316

"As many group members will attest: have a KNOWN good driver and KNOWN good finals in the shack."

Unfortunately, I don't know how to get those, and if I had them I wouldn't be writing here :) - seems like a bit of a catch 22

Kevin
K5KDT

49317. Re: [TS-520_820_530_830] Remote VFO-820 causes erratic frequency display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-14 14:50:40 UTC
From: ktschwab@...
Topic: 49305 Message: 49317

Thanks Terry for your very knowledgeable comment about my VFO-820. In reading all of your and Mike's inputs to this group, I know that you two people know best! I do, however, like to read other users inputs and see what they have to say. But, I will do exactly what Mike suggested and I'll post the outcome later, as this Kenwood station is about 80 miles from my home at my son's farm. Thanks again Terry, 73, Karl KO8S

49318. Driver and final tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-14 15:30:18 UTC
From: Craig Roberts
Topic: 49318 Message: 49318

Hi Kevin,

12BY7A driver tubes and 6146B finals are both readily available on eBay
or, (among other places):

http://www.surplussales.com/Tubes-Sock-Acc/TubeSpecials.html

Good luck and 73,

Craig
W3CRR

49319. Re: 'Normal' ALC on 40/20m, tiny ALC spot for 15m no ALC on 10m

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-14 18:14:00 UTC
From: wagstw46@...
Topic: 49309 Message: 49319

Kevin:

Reputable sources are discussed here often.

You can buy Driver tubes from Ken K4EAA and if not right he will replace at his cost. RF Parts is a good source of Finals and if not right they will also replace them at no cost. There are other reputable suppliers.

Can buy off Ebay, but it can be a crap shoot unless you have found a seller similar to the two sources above that has a good right of return policy. Part of the problem from Sellers perspective is they have no way to know if you operated them properly. If you dont have proper operating bias can easily go into thermal runaway and be instantly damaged. Not as easy to have catastrophic damage from excess off resonance key down time.

NOS may mean never installed or energized in a transmitter after factory final testing but no way to tell with 100% certainty. Even if truely NOS the tube has been sitting on the shelf off gassing for 35 years and may arc over when energized.

I DC hi-pot all my spare 6246 finals prior to installing them but few folks have that kind of test set. I also rotate my spares annually when I do my spring tune up (blow out the dust, visual inspection, lube the fan bushings etc). Does no good to reach for a spare when you need it only to find out it is not viable.

Some install them in a rig like a Heath DX-60 and run them for awhile prior to installing in their KW hybrid. Best emission tester in the world is running in your rig with RF excitation and full plate current. Still others believe in "cooking" them with just the filaments on and I wont get involved in the "gettering" discussion again.

I have had good luck buying 12BY7A tubes at hamfest and always bring several home with me from the tube sellers. Not so good with the 6146 tubes at hamfests.

So yes it is a bit of a catch 22.

Terry K9TW

49320. Re: [TS-520_820_530_830] Re: 'Normal' ALC on 40/20m, tiny ALC spot for 15m no ALC on 10m

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-14 18:18:28 UTC
From: CROOKS David
Topic: 49309 Message: 49320

Kevin,
Didn't you previously report that you tested your new driver tube in another rig and it was OK?
If so, was it tested on 10m?
Dave f4eyk

49321. Re: [TS-520_820_530_830] Remote VFO-820 causes erratic frequency display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-14 19:32:09 UTC
From: wagstw46@...
Topic: 49305 Message: 49321

Karl:

I agree we need to encourage contributions and enjoy debates based on sound fundamental technical knowledge and experience. Of course "believes, folklore, and tribal knowledge" will also be proffered and sometimes no amount of logic will dispel the voodoo. The challenge for every one (same as for any Google search results) is sorting out the best practice from the good enough to the just plain wrong ie the bum dope.

If you think it would be a good idea to try to "improve the tension" of your VFOs air variable capacitor rotor wiper contact as was presented then have a ball. It is your radio.

I will stand with my advice that it is not a good idea to attempt to improve the tension. I would like to see a You Tube video of how that could be accomplished working thru the access window. You will not be the first person to poke around on the wiper contact with a screwdriver.

Have fun
Terry K9TW

49322. Re: [TS-520_820_530_830] Re: 'Normal' ALC on 40/20m, tiny ALC spot for 15m no ALC on 10m

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-14 20:10:26 UTC
From: Joseph Stiles
Topic: 49309 Message: 49322

Kevin,

You are getting a lot of info in a short period of time that you may not fully understand. We are here to help, NOT confuse. We do not know your skill/knowledge level, the tools/equipment you have or, are available to you. If you want to continue to maintain these fine old rigs, you will need to obtain or have access to: a VTVM with an RF probe(many good older Heathkit ones ebay)..you can build your own RF probe--cheap) or any other decent/accurate meter that can measure AC/DC and RF voltage(with associated probe), the operators & service manual, correct sizes of "tuning wands" and further down the line an RF signal generator and o'scope.

But we're getting too far ahead. As stated: Ken Kemski (k4eaa.com) has driver tubes of quality.

Your problem may not be a bad driver...but maladjusted coils in the final amplifier string. Do you know the history of this rig?? The "Golden Screwdriver" may have been used..or other "modifications" done.

I don't want to sound harsh....but we can only assist you with what you observe and tell us...and accuracy helps. Terry-k9tw, Mike-w5rkl, and several others, are tops in helping diagnose and fix what is wrong...but even they can only go on what is told to them.

So PLEASE take no offense...we are here to help!

73 Joe
WB7UQU

On Monday, July 14, 2014 11:24 AM, "'CROOKS David' dave.crooks@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
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>Kevin,
>Didn't you previously report that you tested your new
driver tube in another rig and it was OK?
>If so, was it tested on 10m?
>Dave f4eyk
>
>
>

49323. Re: [TS-520_820_530_830] Re: 'Normal' ALC on 40/20m, tiny ALC spot for 15m no ALC on 10m

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-14 20:17:38 UTC
From: Kevin Timm
Topic: 49309 Message: 49323

I have only tested the driver(s) - original and spare - and finals in a tube tester, not in a radio.

Kevin
K5KDT

49324. Re: [TS-520_820_530_830] Re: 'Normal' ALC on 40/20m, tiny ALC spot for 15m no ALC on 10m

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-14 20:21:06 UTC
From: Kevin Timm
Topic: 49309 Message: 49324

I have an inexpensive VOM and that is all. I have access to other equipment but it would be through my club.
I'm pretty good with electronics, I know how they work - I started college for EE but moved to software because I found it to be 'more fun' :)

I don't have any history at all, I'm searching my archives for the name of the guy I bought it from so I can ask him.

What's strange to me is that I can dip on 15M when I turn the radio on but after 10 minutes, no go. (And, to be clear, nothing happens on 10m).

Kevin
K5KDT

49325. Re: [TS-520_820_530_830] Re: 'Normal' ALC on 40/20m, tiny ALC spot for 15m no ALC on 10m

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-14 22:20:23 UTC
From: Mike W5RKL
Topic: 49309 Message: 49325

Kevin,

I recommend you take voltage measurements before the problem occurs (when the radio is first powered up) and after the problem occurs (when you lose the IP current dip).

Before you perform any voltage checks of the final amplifier, check the cathode resistors to ensure they have not fallen out of tolerance. The ohm meter when connected between pin 1 and chassis opn the 6146 tube socket should show approximately 5 ohms. If the resistance is significantly higher such as 7 or 8 ohms then replace all of the cathode resistors. The TS-520 and TS-820 has two 10 ohm 1 watt cathode resistors while the TS-530 and TS-830 have four 20 ohm 1/2 watt cathode resistors. The 100 ohm 1/2 watt screen resistors typically do not need replacing but check them to be sure. Metal Film resistors are fine as replacements for the cathode resistors.

The 6146 cathode resistance, if significantly out of tolerance, will affect the "accuracy" of the IP meter indications so make sure they are good. I have a video on my website that discusses the 6146 cathode circuit resistance and how the IP meter display is affected if the cathode resistors are out of tolerance.

www.w5rkl.com

Ensure the bias setting is done correctly before you perform any voltage measurements. Follow what the operator's manual says. The bias pot setting that results in 60ma idling current flowing in the final tubes is the correct bias setting for proper Class AB1 linear amplifier operation.

Make sure the SG switch on the rear panel is set to the correct setting which is "ON". This switch should be checked after handling the radio, such as moving it from the operating desk to the bench and vice versa. Moving the radio quite often has cause the person's hand/finger(s) to accidentally move the switch to the OFF position so check it to be sure it's in the ON position. If you find a "negative" voltage on the final tube screens, pin 3, when measuring voltages on the 6146, then the SG switch is in the wrong position or there is a problem with the SG switch circuit.

73
Mike W5RKL

On 7/14/2014 3:21 PM, Kevin Timm kevindtimm@...
[TS-520_820_530_830] wrote:

> I have an inexpensive VOM and that is all.? I have access to other
> equipment but it would be through my club.
> I'm pretty good with electronics, I know how they work - I started
> college for EE but moved to software because I found it to be 'more
> fun' :)
>
> I don't have any history at all, I'm searching my archives for the
> name of the guy I bought it from so I can ask him.
>
> What's strange to me is that I can dip on 15M when I turn the radio on
> but after 10 minutes, no go.? (And, to be clear, nothing happens on 10m).
>
> Kevin
> K5KDT
>
>
> ---
>

49326. Manuals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-14 23:26:56 UTC
From: kmx888@...
Topic: 4788 Message: 49326

I am cleaning the shack and ran across a TS-520 Service Manual and a DG5-Manual.
They are in good shape and complete. They are easily available as a download, but if they would help someone here I would be happy to mail one to you. I am down to an 830S and 530 so it is time they
went to someone who can use them. Doesn't seem right to put them on EBay if one of you can use them.
Best Regards,
Kevin
KD0ILM/XV2KM

49327. Re: [TS-520_820_530_830] Manuals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-15 04:51:23 UTC
From: R Oler
Topic: 4788 Message: 49327

Hello Kevin...if they are not already spoken for I will take them...and put them to use.

I am a Captain with Turkish Airlines and am on my way back to Houston from Istanbul...be back in 24 hours and can make arraingements via pay pal or however to pay shipping

Robert WB5MZO/TA2

Sent from my iPad

> On Jul 15, 2014, at 7:22, "kmx888@aol.com [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:
>
> I am cleaning the shack and ran across a TS-520 Service Manual and a DG5-Manual.
>
> They are in good shape and complete. They are easily available as a download, but if they would help someone here I would be happy to mail one to you. I am down to an 830S and 530 so it is time they
>
> went to someone who can use them. Doesn't seem right to put them on EBay if one of you can use them.
>
> Best Regards,
>
> Kevin
>
> KD0ILM/XV2KM
>
>

49328. Re: [TS-520_820_530_830] Remote VFO-820 causes erratic frequency display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-15 15:59:46 UTC
From: ktschwab@...
Topic: 49305 Message: 49328

Thanks again Terry! These Kenwood Hybrids and it's accessories, are getting very old and precious, I will always use caution when I am using them! A couple of months ago, my friend gave me his Kenwood station; TS-820, MC-50 mic, speaker and 2-meter transverter that he hadn't used in 25 years or so. He bought all of this brand new when it first came out. The TS-820 was only opened up once when he bought it to add the CW filter and it has never been opened since! I would be rather reluctant to replace any of it's original components such as the HV caps, etc; but perhaps, I should consider doing so. The only thing that I have added to it, is a remote VFO-820 which looks mint, but requires the service procedure that you and Mike suggested in an earlier email. 73, de Karl, KO8S

49329. DC Hi-pot Testing 6146 Tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-15 17:05:01 UTC
From: wagstw46@...
Topic: 49329 Message: 49329

Recently have had some off Reflector questions about Hi-pot testing that include the following:

1. 1. Do you have pictures of your Hi-pot? Yes- two pictures are posted on my website k9tw.com.

2. 2. Do you have a schematic of your Hi-pot? Yes-hand drawn not a nice Tiny Cad.

3. 3. Do you have a written test procedure for 6146 tubes? No- Have some good notes but need to draft the procedure I use and post on my website. Basically follow Eimac Bulletin #28 with modified voltage levels and leakage current acceptance criteria for the lower anode voltage swing of a 6146 (approx 1600 volts).

4. 4. If I send my newly purchased “NOS” 6146 tubes to you will you Hi-pot them and how much would you charge? Yes- I can and have done it and no charge. However, I don’t really want to offer it as a service due to shipping costs and risk of damage in transit. Also see #5 below.

5. 5. If I send them to you and you test and they pass what level of assurance do I have they won’t fail in service? I can’t provide you any assurance that they will not fail. However, if they can hold off 2.0kv to 2.5kv it is unlikely that they will arc over in service. If they arc over at 1000vdc to 1500vdc sometimes they can hold off around 2kv on the 2nd pass, but those tubes make me nervous.

6. 6. Will your Hi-pot tester damage my tubes? No- the Hi-pot is limited to 50ua current at 5kv with the test leads shorted. That level of current doesn’t produce any power (approx 250mw) that would exceed any of the tube elements dissipation ratings.

My design is essentially a copy of Richard Measures AG6K and Bill Jones K8CU designs. You can see their designs on their websites. You can also search under High Voltage Breakdown Testers.

In the 2nd picture you can see a 6146 breaking down at approx 2050vdc. I use a 1gig 1% meter scaling resistor that gives me a accurate 100X multiplier on a 10 meg voltmeter. In the picture you will see the voltmeter on the 30vdc range which is now 0 to 3000vdc range. What you cannot see is the ua leakage current meter needle spiking and dropping back. Of course cannot capture that action in a still photo.

I probably have close to $150 in my Hi-pot (a lot of it in the ¼” plexiglass enclosure). Cost depends on your junk box, hamfests finds, and ebay purchases. You can use oil ignition transformers, neon sign transformers, electric fence charger transformer, copy machine power supply, microwave oven transformers, and tube Plate transformers. I used a Stancor 2400vac Plate transformer and a voltage doubler. The caution here is that a Plate transformer is capable of delivering milliamperes of current and can kill you if the test set is not properly current limited. You have to decide what tubes you want to test and what anode swing they see in service to decide the output voltage level you need. For most common tubes a 15kv test set would be max you would need. For example if your linear is

running 4kv on the anodes than you will need at a minimum an 8kv test set so would probably build a 10kv set. Can be done with doublers and quadruplers.

For testing 6146 tubes you can make a very simple DC Hi-pot by using an Ozone generator transformer. A 3kv unit that has 12vdc input would be perfect for testing 6146 tubes (if you have a bench variac they also have 120vac units). You can see these ion generator transformers on Ebay for around $20.00 to $30.00. Could vary the 12vdc input with dc bench supply or use a series rheostat/pot. Much cheaper than a variac. If you don’t meter it and just use bench test equipment to measure the output voltage and leakage current you can greatly reduce the costs. A 50ua movement can be had on ebay for $20 and much cheaper at hamfests.

A 1 gigohm resistor (from an old TV 2nd anode high voltage probe) in series with your 10 meg DMM or VTVM plus lead will allow your meter to read 100X whatever dc range you use. I commonly use the 30vdc and 100vdc ranges, which allows me to read 3000vdc and 10,000vdc. Of course you could build the voltmeter into the test set and calibrate its meter face. I chose to just use the scaling resistor and bring the HV out to banana jacks and use good 10 meg input multimeter to monitor output voltage. You don’t need a zero center ua meter movement. This is just one that I had in junk box.

As soon as I get the 6146 test procedure finalized I will post it under How To or FAQ section on my website. I do some prep like wiping off the glass envelope and shield ring with alcohol wipes so wont track across the outside and testing the Hi-pot with open test leads to ensure no leakage current is registered. At higher voltages would place tube in a glass dish, but not necessary for a 6146 tube.

Remember a DC Hi-pot is also good for testing things other than vacuum tubes, transistors, and diodes. It works great to test air and vacuum variable capacitors. It is interesting to see where the KW hybrid plate loading capacitor arcs over at (it has what is referred to as broadcast band plate spacing).

If you have many more questions we can take it off the Reflector.

Terry K9TW

49330. Re: [TS-520_820_530_830] DC Hi-pot Testing 6146 Tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-15 19:47:32 UTC
From: Jan Servaites
Topic: 49329 Message: 49330

Terry,
What a coincidence about this subject. I'm getting ready to start building my own Hi-Pot tester. I just acquired the oil furnace ignition transformer on Ebay, and I need just a few of the HV resistors & some Plexiglas sheet.
Yes, Richard Measures AG6K and Bill Jones K8CU are good sources on these testers.
Jan N8CBX

49331. Re: [TS-520_820_530_830] DC Hi-pot Testing 6146 Tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-15 22:09:44 UTC
From: wagstw46@...
Topic: 49329 Message: 49331

Well for some reason I have had several off list emails in last couple of weeks about hi-pot testing and I just did 4 tubes for a real good guy who had some arc overs in his TS830 and two of the four were bad with one having a bolted fault from SG to Control grid. About worse thing you can have happen as it applies SG voltage back down the FG line to the -C supply and usually does a lot of damage to a KW hybrid. I have seen about 3 of these and not fun.

I used 12kv piv microwave oven diodes and .01uf 10kv wvdc caps in voltage doubler config and mounted them on glazed porcelain stand off insulators. I use 50meg series resistor to limit the current and old fashioned 100 watt lite bulb in primary of the transformer.

I had another 50ua meter movement that I measured the internal R and was going to use it with a 200meg series meter multiplier resistor to have a voltmeter on the front panel, but decided to just install some jacks and use a good bench test meter with 100X multiplier resistor to read the voltage. I wanted pretty accurate voltage measurement and I am not good and making nice new meter scales.

I always make sure the line cord is unplugged before I connect any DUT. I did not install a pilot lamp as didnt want a burned out indicator to lull me into a trap. Probable could have not used an On-Off switch as I say I always unplug it when making connections. Used some good quality flexible Belden HV test prod wire for test leads.

Just be careful.

Terry K9TW

49332. For sale: TS-530SP (United Kingdom)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-15 22:39:29 UTC
From: zen18531@...
Topic: 49332 Message: 49332

I'm in the lucky position of having a 530S, 530SP, and 830S Gold Label. As such, I'm selling my TS-530SP.

Its on ebay, currently in auction, but with a buy-it-now price of 275ukp, plus postage. Already offering to pay insurance for UK delivery on buy-it-now, but if a group member buys, I'll try to work out a better deal too. The description also includes a video to it working (RX and TX), and an edit links to a video showing it does DLP tune on the lower bands - which I didn't test before as I don't have an antenna.

Apologies if ebay linking breaks rules (had a quick gander and couldn't owt specifically forbidding it)

Item number 231282200208

Alan
M6XRE

url Kenwood TS-530SP (wth YK-88S SSB filter) - Good Working Order http://www.ebay.co.uk/item/231282200208?ru=http%3A%2F%2Fwww.ebay.co.uk%2Fsch%2Fi.html%3F_sacat%3D0%26_udlo%3D%26_udhi%3D%26_ftrt%3D901%26_ftrv%3D1%26_sabdlo%3D%26_sabdhi%3D%26_samilow%3D%26_samihi%3D%26_sadis%3D15%26_stpos%3D%26_sop%3D12%26_dmd%3D1%26_ipg%3D50%26_nkw%3D231282200208%26_rdc%3D1

http://www.ebay.co.uk/itm/231282200208?ru=http%3A%2F%2Fwww.ebay.co.uk%2Fsch%2Fi.html%3F_sacat%3D0%26_udlo%3D%26_udhi%3D%26_ftrt%3D901%26_ftrv%3D1%26_sabdlo%3D%26_sabdhi%3D%26_samilow%3D%26_samihi%3D%26_sadis%3D15%26_stpos%3D%26_sop%3D12%26_dmd%3D1%26_ipg%3D50%26_nkw%3D231282200208%26_rdc%3D1

Kenwood TS-530SP (wth YK-88S SSB filter) - Good Wor... http://www.ebay.co.uk/itm/231282200208?ru=http%3A%2F%2Fwww.ebay.co.uk%2Fsch%2Fi.html%3F_sacat%3D0%26_udlo%3D%26_udhi%3D%26_ftrt%3D901%26_ftrv%3D1%26_sabdlo%3D%26_sabdhi%3D%26_samilow%3D%26_samihi%3D%26_sadis%3D15%26_stpos%3D%26_sop%3D12%26_dmd%3D1%26_ipg%3D50%26_nkw%3D231282200208%26_rdc%3D1 Kenwood TS-530SP (wth YK-88S SSB filter) - Good Working Order in Mobile Phones & Communication, Radio Communication Equipment, Ham/Amate...

View on www.ebay.co.uk http://www.ebay.co.uk/itm/231282200208?ru=http%3A%2F%2Fwww.ebay.co.uk%2Fsch%2Fi.html%3F_sacat%3D0%26_udlo%3D%26_udhi%3D%26_ftrt%3D901%26_ftrv%3D1%26_sabdlo%3D%26_sabdhi%3D%26_samilow%3D%26_samihi%3D%26_sadis%3D15%26_stpos%3D%26_sop%3D12%26_dmd%3D1%26_ipg%3D50%26_nkw%3D231282200208%26_rdc%3D1
Preview by Yahoo

49333. Re: [TS-520_820_530_830] Manuals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-16 02:12:23 UTC
From: Gregory Albers
Topic: 4788 Message: 49333

Kevin
I have a TS 520 and would love to have the manuals. I will be happy to pay for postage.
Thanks
73
Greg Albers
KC9VVU
1030 Toler Rd NW
Corydon, IN 47112

Sent from Greg Albers iPad

On Jul 14, 2014, at 7:26 PM, "kmx888@aol.com [TS-520_820_530_830]"
<TS-520_820_530_830@yahoogroups.com> wrote:

> I am cleaning the shack and ran across a TS-520 Service Manual and a DG5-Manual.
>
> They are in good shape and complete. They are easily available as a download, but if they would help someone here I would be happy to mail one to you. I am down to an 830S and 530 so it is time they
>
> went to someone who can use them. Doesn't seem right to put them on EBay if one of you can use them.
>
> Best Regards,
>
> Kevin
>
> KD0ILM/XV2KM
>
>

49334. Re: [TS-520_820_530_830] Manuals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-16 00:40:24 UTC
From: Ken Burchfield
Topic: 4788 Message: 49334

Kevin, your a good man,

You will make someone vry happy!

73 Ken

PacketRadio is Still Alive.....Mississippi.....145.010.....Simplex.....1200 baud Baud

Moderator's Note:
Message edited, previous post segment has been removed.
73
Mike W5RKL
Group Moderator

49335. Re: [TS-520_820_530_830] Manuals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-16 01:41:46 UTC
From: kmx888@...
Topic: 4788 Message: 49335

Robert, They are yours. Please contact me offline and we will make the arrangements.
Kevin
KD0ILM/XV2KM

49336. Re: [TS-520_820_530_830] Re: TS-520 Transmitter Issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-16 13:24:13 UTC
From: aa6vx@...
Topic: 49293 Message: 49336

Troubleshooting Continued
TS-520 S/N 510281

I have four spare 12BY7's, plus the one in the 520 and the one in the 830S for a total of 6. I tuned up the 520 with 5 of my driver tubes. They all provided very slight different drive levels on the lower bands and were able to provide ALC readings with my Carrier control full CW except for 10M where I still get nil. 80M-20M I can get roughly ¼ scale ALC reading with the Carrier control down to 1 o'clock. I adjusted T1 for peak ALC which helped a little on 15M but no change on 10M. I probably should run all the tubes in the 830 again just to give me more assurance of the RF capability of all my spare driver tubes.

I saw some erratic ALC needle movement for a time that correlated with erratic DP/DRV DC voltage on my VTVM. This may be the ALC decay-like behavior I saw before but it seems to have gone away for the moment so I have an intermittent problem there. I did not see any erratic DC voltage behavior on pin 5 of the 6146. Could C3 be going bad? However, I'm still dealing with a sustained reduction in drive/power regardless of the intermittent.

My VTVM is a Heathkit V-7A restored, upgraded and calibrated by Gary Clarke on eBay. As a side, I made an N5ESE single diode RF Probe I use with the VTVM. I also have a Fluke 85 RF probe to go with my Fluke 87III DVM. The readings are not always consistent between the two RF probes but I guess they're "ball park".

I plan to make some 10M only TX diagram measurements when I get a chance. I updated my vitals alittle below.

Thanks
Rich, AA6VX

--
Corrected and Updated Results

Output power (Carrier fully CW):
80M 125w…sometimes 90W
40M 125w
20M 115w
15M 90W…sometimes 75W
10M 5w

12BY7 Driver:
R T
Pin 1 .4 vdc 5.3 vdc
Pin 2 -38 vdc .4 5vdc
Pin 3 0 0
Pin 4 0 0
Pin 5 12.7 vac 12.7 vac
Pin 6 0 0

Pin 7 328 vdc 300 vdc
Pin 8 249 vdc 223vdc

6146B Finals:
R T
Pin 1 0 0.33 vdc
Pin 2 12.7 vac 12.7 vac
Pin 3 +251 vdc +234 vdc
Pin 4 0 0
Pin 5 -92.5vdc -61.2vdc (0.35Vp-p)
Pin 6 0 0
Pin 7 6.25vac 6.25vac
Pin 8 0 0
Plate (V1) +912 vdc +856 vdc
Plate (V2) +912 vdc +856 vdc

Final V1 pin 5 swing:

80M 80 Vp-p
40M 80 Vp-p
20M 33 Vp-p
15M 20 Vp-p
10M 20 Vp-p

RF Board Measurements:

DP/DRV: Noticed some erratic behavior that can come and go on all.
80M 160 Vp-p
40M 60 Vp-p
20M 30 Vp-p
15M 20 Vp-p
10M 20 Vp-p

MD (RF Probe):
80M 1.78 Vrms
40M 2.7 Vrms
20M 1.8 Vrms
15M 1.49Vrms
10M 1.14 Vrms

Q3 Het Mixer (Transmit):
RF Probe DVM
D 1.8 Vrms 13.6 Vdc
G1 1.3 Vrms 2.5 Vdc
G2 .5 Vrms 2.5 Vdc

49337. Re: [TS-520_820_530_830] Re: TS-520 Transmitter Issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-16 16:20:38 UTC
From: wagstw46@...
Topic: 49293 Message: 49337

At DP you are measuring the Plate voltage of the Driver Tube if you are using a VTVM on the DC ranges.

If you are seeing erratic Plate voltage regardless of the installed driver tube you might want to look at the tube socket solder connections on the RF board. You can view them by looking thru the hanging boards and pressing and pulling on the Driver tube to see if any of them are cracked. You can see them between the last metal shield and the Drive coil board. Pretty common problem as the board is flexed with install and remove of the 1`2BY7A tubes.

If solder connections are good and Plate voltage is varying I would look at SG voltage and Bias voltage on control grid to see if either of them are varying. Also Cathode voltage should be varying along with the Plate voltage as plate current will be varying and the IR drop across the three cathode resistors will vary .

Also I hope you know you cant use either of your RF probes at DP or DRV as the RF voltage will exceed the PIV of the single germanium signal diode in the probes. Need a three diode probe or use your O-scope. It appears you are using your O-scope to look at RF drive at DP/DRV.

Terry K9TW

49338. Using a TS 520 off a fully charged battery

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-16 16:25:30 UTC
From: gdesler@...
Topic: 49338 Message: 49338

I am planning my first mini field day on a mountain close to Las Vegas. As a HOA home owner this is a chance to try new antennas. My question to the group is what is the voltage range to safely operate the 520? I have a brand new SLA 35 AH battery that I charged last night. The readings with the charger removed is 13.76 VDC.
At what voltage should I stop using the 520?

Gary
73,
AA7YO

49339. Re: [TS-520_820_530_830] Using a TS 520 off a fully charged battery

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-16 18:08:49 UTC
From: W5RKL
Topic: 49338 Message: 49339

I assume, Gary, that your 520 is equipped with the DC to DC converter (X46-1000-00), mounted and connected to the 520 on the rear panel.

I personally would not attempt to operate the TS-520 on DC power if the battery voltage drops below +12.0VDC. You should know the TS-520's DC power requirements which are listed in the TS-520's operator's manual. This should be the first thing you do. The current demand based on the following will give you some idea what limitations you will be up against.

1. Heaters OFF, receive ONLY, 600ma
2. Heaters ON, receive but ready to transmit, 5 amps
3. Heaters ON, full xmit power, 15 amps

Note:
RCA and other tube manufactures specify a minimum of 60 second warm up period for the 6146B. Therefore, flipping the HEATER switch ON will require you to wait at least 60 seconds before you should attempt to transmit in any mode. TUNE up which will require longer transmit periods will also affect the life of the battery.

If you operate low power then the current demand placed on the battery will be less than if you operate full power. Naturally, to operate low power on SSB, you will have to build a simple variable DC "negative" source to control power output in SSB mode. This simply circuit is connected to the "External ALC" connection on the pin 6 of the rear panel 8 pin REMOTE socket. You can find this circuit on the Yahoo Kenwood Group homepage in the "Files" section. Simply turning the MIC gain down will not accomplish QRP operation in SSB mode. The CAR control will reduce power in CW mode so an external ALC negative voltage circuit will not be required since ALC is not used in CW mode.

Therefore, I'm not sure how long you will be able to operate the TS-520 using a 13.67VDC 35 AH battery.

73
Mike W5RKL

On 7/16/2014 11:25 AM, gdesler@... [TS-520_820_530_830] wrote:
>
> I am planning my first mini field day on a mountain close to Las
> Vegas. As a HOA home owner this is a chance to try new antennas. My
> question to the group is what is the voltage range to safely operate
> the 520? I have a brand new SLA 35 AH battery that I charged last
> night. The readings with the charger removed is 13.76 VDC.
>
> At what voltage should I stop using the 520?
>

>
> Gary
>
> 73,
>
> AA7YO
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

49340. Re: [TS-520_820_530_830] Using a TS 520 off a fully charged battery

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-16 18:49:38 UTC
From: KB1TCD
Topic: 49338 Message: 49340

If it is not equipped with the DC to DC converter, the 520 will not like an inverter that is not
sine wave, or at least a UPS (Uninterrupted Power Supply) used for computers retrofitted to
use a larger capacity battery.
Either way, unless you're using a solar panel to keep the battery going, I don't think the 35amp/hr battery will last very long, especially if you have to use an inverter which robs
efficiency.
I ran a solar powered voice station on Field Day from start to finish using a TS-2000 at
100 watts, a 105 amp/hr glass mat deep cycle battery and a 50 watt solar panel without
a problem. I run my shack on solar; two 100 watt panels, four 115amp/hr deep cycle batteries but I do not run the TS-830S on solar/batt power.
Do run wifi, router, phone, a couple of led lights and a laptop here and there as well as a
Yaesu 897D and a 65w 2m radio that I rarely use on solar/batt power.

73 de Jose KB1TCD

On 7/16/2014 2:08 PM, W5RKL w5rkl@... [TS-520_820_530_830] wrote:
> I assume, Gary, that your 520 is equipped with the DC to DC converter
> (X46-1000-00), mounted and connected to the 520 on the rear panel.
>
> I personally would not attempt to operate the TS-520 on DC power if
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> based on the following will give you some idea what limitations you
> will be up against.
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>
> Note:
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> will be less than if you operate full power. Naturally, to operate low

> power on SSB, you will have to build a simple variable DC "negative"
> source to control power output in SSB mode. This simply circuit is
> connected to the "External ALC" connection on the pin 6 of the rear
> panel 8 pin REMOTE socket. You can find this circuit on the Yahoo
> Kenwood Group homepage in the "Files" section. Simply turning the MIC
> gain down will not accomplish QRP operation in SSB mode. The CAR
> control will reduce power in CW mode so an external ALC negative
> voltage circuit will not be required since ALC is not used in CW mode.
>
> Therefore, I'm not sure how long you will be able to operate the
> TS-520 using a 13.67VDC 35 AH battery.
>
> 73
> Mike W5RKL
>
> On 7/16/2014 11:25 AM, gdesler@... [TS-520_820_530_830] wrote:
>>
>> I am planning my first mini field day on a mountain close to Las
>> Vegas. As a HOA home owner this is a chance to try new antennas. My
>> question to the group is what is the voltage range to safely operate
>> the 520? I have a brand new SLA 35 AH battery that I charged last
>> night. The readings with the charger removed is 13.76 VDC.
>>
>> At what voltage should I stop using the 520?
>>
>>
>> Gary
>>
>> 73,
>>
>> AA7YO
>>

49341. Re: [TS-520_820_530_830] Using a TS 520 off a fully charged battery

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-17 03:10:22 UTC
From: Wes Will
Topic: 49338 Message: 49341

On 07/16/2014 11:25 AM, gdesler@... [TS-520_820_530_830] wrote:
> what is the voltage range to safely operate the 520? I have a
> brand new SLA 35 AH battery > At what voltage should I stop using the 520?

11.6V (UNLOADED)

is the absolute lowest you should go with an SLA battery without risking damage to the cell connections, the plates, or the gelled acid compound itself (crystallization and drying out). If you keep it at or above 11.9V (UNLOADED) you will maximize the life and number of charge cycles the battery will take over its life.

If you go on and take that last 0.3V of use many times, well, you won't -harm- the battery, but you will lower the number of charge cycles it will take over its total (shortened) life span.

If you go on and keep using the battery, and get the battery down to

10.5V (UNLOADED)

even ONCE, what you now have is a dead, unusable, unchargeable, useless, used-to-be-a battery. After you dump it to or below 10.5V, and then recharge it, the battery will appear to take a charge, but when you put a load on, it will drop almost instantly back down to 10.5 or lower. ("Almost instantly" means in less than five percent of the usual, undamaged discharge time. Can be as little as one percent.)

You've already got the sealed lead-acid (gel cell, undoubtedly). Next time you go for another battery, look around for "absorbed glass matt" (AGM) batteries instead.

Gel cells just flat don't cut it for a lot of applications, and the crystallized gel and sulfation problems have given me more grief over the years, everything from alarm panels to industrial process sensor and control backups, to radio applications. The AGM batteries do all the good stuff that gel cells do but are a lot more robust, harder to damage, and resistant to abuse.

--
Wes Will
N9KDY

49342. Re: TS-520 Transmitter Issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-16 22:36:22 UTC
From: aa6vx@...
Topic: 49293 Message: 49342

Terry,

Yes. Thank you. I do put the RF probes away when I'm on the right end of the TX diagram. I made my official measurements on the scope but was using the VTVM regular leads straight onto DP when looking for the decay/intermittent.

I've looked at the socket solder joints a few times but not while flexing the board from the tube side. I will try that.

What is your thoughts on those wire wrap terminals? I tried to add solder to them using a little flux but they had a hard time accepting the solder. Is it common for those to grow in resistance?

Rich AA6VX

49343. Re: TS-520 Transmitter Issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-17 10:49:29 UTC
From: wagstw46@...
Topic: 49293 Message: 49343

Rich:

No wire wrap makes a very good electrical connection assuming they have not been tampered with and are the original factory wraps. They are low contact resistance and last indefinitely. The wrapped contact area is essentially gas impermeable due to the very high contact pressure so they dont oxidize.

Only bad ones I have ever seen are the cobbled up attempt of re-wrapping and soldering. Almost all are cold solder joints. See that a lot if a "hanging board" has been replaced.

No you cannot solder to them very well due to external oxidation over the years. When I have to unwrap one I cut back all of the original conductor as it gets work hardened during the wrapping process and cant be re-wrapped. There is usually not enough slack to expose new conductor and re-wrap and you must use proper hand wrapping tool. I have one but never use it. Absent ability to re-wrap properly I lightly file the post to get to clean metal and make one or two wraps at the top with the new lead wire and then solder it.

Terry K9TW

49344. TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-17 11:42:55 UTC
From: bornofthehorses@...
Topic: 66 Message: 49344

Ok have a TS-520S with the VFO 520S.Was given a VFO-820S it plugged right in the the 520S cable worked for 10 years. Got a TS-820S went to put the VFO-820S on it with the same cable I have been using on the 520S and piffff smoke right behind the cable socket on the radio. How bad is it and what did I fry. Did I just eat a radio.It has a dg1 pig tail with the rca on it it was not hooked up yet.

49345. Re: [TS-520_820_530_830] TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-17 14:06:01 UTC
From: Mike W5RKL
Topic: 66 Message: 49345

First, you need to sign your messages with your name and call sign at the end of the message.

Second, do you have the TS-820 operator's manual with the schematic? There is a TS-820S high resolution schematic and the operator's manual you can download from my website, use the links below:

http://w5rkl.com/wp-content/uploads/2014/04/TS-820-hi-res-schematic.pdf

http://w5rkl.com/wp-content/uploads/2014/04/TS-820S-Operators-Manual.pdf

The remote VFO-520 and VFO-820 operator manuals can be downloaded at the following links

http://w5rkl.com/wp-content/uploads/2014/04/VFO-520-operator-manual.pdf

http://w5rkl.com/wp-content/uploads/2014/04/VFO-820-operating_manual.pdf

I have no idea what the "pig tail" is, you will have to trace the pig tail wiring to it's destination. That's obviously a previous owner mod/addition. Its a shame but most changes made by previous owners are not documented, leaving any new owners out in the dark as to what the changes are for.

You need to check the wiring at the wiring side of the 820's Remote VFO socket. The factory wiring for the Remote VFO is as follows.

Pin 1 is the VFO signal coax center conductor (connects to the internal VFO through an RCA plug)

Pin 2 is is the VFO signal coax shield (part of the connection in Pin 1 to the internal VFO)

Pin 3 is ground

Pin 4 is 12VDC for the VFO lamps

Pin 5 is the VFO's relay (used for split operation, see the operator's manual details for VFO, VFO R, FIX R and FIX operation)

Pin 6 is the Function switch CAL RMT setting allowing the remote VFO to zero beat with the 820's calibrator at every 25Khz intervals except the remote VFO is used instead of the 820's internal VFO (see the manual for futher details)

Pin 7 is not use

Pin 8 is connected to the internal VFO's B+ terminal (a jumper between this pin and pin 9 provides B+ for the internal VFO)

Pin 9 is 9VDC (provide 9VDC power for the internal VFO, see pin 8 above. This also provide B+ for the Remote VFO when the remote VFO's Function switch is set to a position other than OFF)

The VFO-520 and VFO-820 are the same VFO. The wiring and cable are the same. This means you can plug a VFO-520 into the TS-820's remote VFO socket and vice verse, a VFO-820 can be plugged into a TS-520's remote VFO socket without any wiring changes.

Since the Remote VFO is working with your other 520/820 radios then it stands to reason the remote VFO and cable are not the source of your problem. More than likely a previous owner has made some undocumented changes to the 820's remote VFO socket.

73
Mike W5RKL

On 7/17/2014 6:42 AM, bornofthehorses@... [TS-520_820_530_830] wrote:
>
> Ok have a TS-520S with the VFO 520S.Was given a VFO-820S it plugged
> right in the the 520S cable worked for 10 years. Got a TS-820S went to
> put the VFO-820S on it with the same cable I have been using on the
> 520S and piffff smoke right behind the cable socket on the radio. How
> bad is it and what did I fry. Did I just eat a radio.It has a dg1 pig
> tail with the rca on it it was not hooked up yet.
>
>
>

49346. Shorting Plug For TS-820/820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-17 14:10:54 UTC
From: Joe Wolfe
Topic: 49346 Message: 49346

I am in need of two shorting plugs (Or bridging plugs, if that is more correct) for the 820/820S. Don't mind making them if I can find a pinned plug. Any suggestions, other than eBay?

Thanks in advance!

Joe - W7RKN

49347. Re: 'Normal' ALC on 40/20m, tiny ALC spot for 15m no ALC on 10m

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-17 14:30:01 UTC
From: kevindtimm@...
Topic: 49309 Message: 49347

I've got the 60ma set correctly. I was receiving some information about potentially having a failed / maladjusted oscillator on 10mtr but I screwed up one of the tests and so the other party left the conversation.

I am going to see if I can adjust the 10mtr oscillator - to get it oscillating again; off to Frys to get some adjustment tools for the slugs.

Note that I've check and my crystals have not been modified - at least I can attest that 2 of the 3 for 10mtr are ok, the 3rd is not viewable because of orientation.

Kevin K5KDT

One other item that I noted to the other party, I do get receive on 10mtr.

49348. Alignment question 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-17 15:13:00 UTC
From: n612dw@...
Topic: 49348 Message: 49348

Hi gang,

reading the service manual and trying the alignment procedure - reading from the "Adjustments" table steps 3-6 to verify/set the carrier points and IF Shift. I just installed the 500 hz CW filters after finding them online and want to make sure its setup correctly so that the VBT and such works as expected. The radio is working fine so far otherwise.

I seem to get quite a bit of attenuation on the narrow filters with the jumper set to the CW4 settings (recommended when both filters are inserted). I expect some additional attenuation, but it seems excessive (like nearly 3 S-units on the gauge). How much is expected? from what I read, I should only have at most an "S" unit or ~6db difference in loss between narrow and wide.

I realize the S-Meter may not be too accurate and I can get a very accurate measurement of the loss when i put my HP signal generator on it later when I drag it out. But offhand it does seem excessive, which is why I wanted to check/set the carrier /IF shift point adjustments.

Question-
Item #3/4 Carrier Adjustment - table suggests that with the counter attached to TP3, you use TC2 to adjust the LSB frequency of 8828.50 kHz and TC3 for USB of 8831.5 kHz adjustment on the IF board to . However, I do NOT get any change when moving TC2 OR TC3.

Oddly, I CAN readily adjust the 8375 frequency when attached to TP1 (although the freq counter 1meg input seems to suck out the signal a bit at this point) with TC2. But adjusting TC3 just doesnt seem to move the frequency at TP3 of 8831.50 in USB.

How can this be so? I feel stupid/silly here. What the heck an I missing? I also must be blind, as I cant find TC3 on the schematic. Are there any misprints in the doc?

once I fiddle with this a bit and comfortable with the adjustments, I'll likely sweep it with the generator to align it like the "Survival-Guide" suggests to that it matches the filters I have exactly.

-bob, w9zv

49349. Re: [TS-520_820_530_830] Shorting Plug For TS-820/820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-17 16:53:09 UTC
From: Joseph Stiles
Topic: 49346 Message: 49349

Joe,

The "original equipment" 9 pin plug is VERY hard to find...as you have found out..and IF you find one...a premium price is wanted. Numerous folks have just used the "9 pin socket saver" type of plug...or others have used a non-functional 9 pin based vacuum tube...and broke the tube open and used the 9 pin base..others... at times(me included) have just used a good piece of stiff wire between pins 8 & 9.

73 Joe
WB7UQU

On Thursday, July 17, 2014 7:11 AM, "Joe Wolfe w7rkn.7@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>I am in need of two shorting plugs (Or bridging plugs, if that is more correct) for the 820/820S. Don’t mind making them if I can find a pinned plug. Any suggestions, other than eBay?
>
>Thanks in advance!
>
>Joe – W7RKN
>
>
>

49350. Re: Alignment question 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-17 20:42:17 UTC
From: wagstw46@...
Topic: 49348 Message: 49350

Bob:

It sounds to me like you are adjusting TC-2 and TC-3 on the IF board? If so, please move to the PLL board.

TC-2 and TC-3 Carrier Osc trimmer caps are readily available thru holes provided in the bottom cover. See Pg 43 of the 3rd edition of the service manual. The frequencies noted in Step 3 are just starting points. Step 30 is where you will do the real alignment for proper SSB frequency response.

Now that you have messed with the VBT oscillator trimmer TC-2 I would set it back to 8375.00 as a starting point. I would get on TP-1 using an O-scope 10:1 probe to input to the frequency counter.

Lacking test gear to perform Step 23 you can use the S-meter zero beat method that Richard Measures describes in the Survival Guide Maintenance Sect to align the VBT oscillator later. The acceptance criteria waveform depicted in Step 23 prime is wrong. It should be same as shown in 23. You want to see a nice AM or DSB signal with good crisp zero crossing.

Terry K9TW

49351. Re: New TS-520 Owner with predictable tuning question.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-17 21:09:17 UTC
From: va7pwk@...
Topic: 49255 Message: 49351

Hi Joe and Neil,
Thanks for taking the time to answer my questions. Yes, I did watch the video and come to realize that instructions in the video are more or less the same as the instructions I listed down which came with my radio.

I wanted to know what the bias and RF volts adjustment did and I guess you answered that Joe. And yes, I realize now, after using the radio for awhile, that the Bias doesn't need to be readjusted as it remains at the 60 mA reading once set.

I'll have a look at the home page and try to read up more about the other functions.

Cheers
Mark
va7pwk

49352. Re: Alignment question 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-18 00:09:22 UTC
From: wagstw46@...
Topic: 49348 Message: 49352

Bob:

I forgot to mention that if you adjusted trimmer TC-3 on the IF board you will have to go back and readjust it for proper Balanced Modulator Carrrier supression. See Step 29.

If you were adjusting the LSB/USB Carrier Oscillator trimmers TC-2 and TC-3 on the PLL board please disregard.

Terry K9TW

49353. Re: Alignment question 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-18 03:34:23 UTC
From: n612dw@...
Topic: 49348 Message: 49353

egads...

this is what i meant by stupid... duh !

i dont think things are messed up badly as i just barely made an adjustment to observe, and moved it where i thought it was prior, an stopped since something wasn't right.

i have a pretty good set of test equipment at my disposal so that's not really a problem, all except for a good RF Spectrum Analyzer (too much buckage for my little usage).

tnx terry, i missed it because i was looking at the "unit" column of the measurement, NOT the "unit" column for the adjustment. Limitations of the screen size when looking at a PDF file got me.

now its obvious... all i can do is chuckle at myself at this point ! :-)

tnx agn

-bob, w9zv

49354. Drifting

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-18 05:26:15 UTC
From: k0spn.ae@...
Topic: 49354 Message: 49354

Minor problem with my 530 and I'm thinking it's an easy fix, but need some suggestions.

First, drifting may not be the right term, but every five or so times I fire up the 530, I can watch the display (and hear) the radio drift up and down 400-800Hz over periods of 15-30 seconds. Even after warming up for several minutes it still does this, but if I switch it off for 10 seconds and then back on it's back to a small amount of drift for a short bit, then it's pretty solid.

I know that it's going to shift a bit as it warms up but the huge swings are the problem is, so I suspect that an electrolytic or two are weak and rather than wholesale replace the lot, I'd rather just fix what's ailing.
I did replace the power supply and HV caps about a year ago so I don't think that is the issue.

Sadly, I don't have the time to spend lately to troubleshoot everything, and it isn't my best area to begin with, coupled with other projects I'm working on, and I'd like for you knowledgeable souls to point me at some likely culprits to check to remedy this situation.

Cheers.

49355. Re: [TS-520_820_530_830] Drifting

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-18 11:46:08 UTC
From: Mike W5RKL
Topic: 49354 Message: 49355

Brent,

You need to add a signature at the end of your messages. All members who post messages or respond to questions on this group must add a signature to the end of their messages. When your application for membership was approved the group server sent you a couple of messages you should have read. These message contain the group rules, policies, and stated what an acceptable signature is.

I recommend you review those messages again and add signatures to every message you post on the group.

73
Mike W5RKL
Yahoo Kenwood TS_520_820_530_830 Group Moderator

On 7/18/2014 12:26 AM, k0spn.ae@... [TS-520_820_530_830] wrote:
>
> Minor problem with my 530 and I'm thinking it's an easy fix, but need
> some suggestions.
>
> First, drifting may not be the right term, but every five or so times
> I fire up the 530, I can watch the display (and hear) the radio drift
> up and down 400-800Hz over periods of 15-30 seconds. Even after
> warming up for several minutes it still does this, but if I switch it
> off for 10 seconds and then back on it's back to a small amount of
> drift for a short bit, then it's pretty solid.
>
> I know that it's going to shift a bit as it warms up but the huge
> swings are the problem is, so I suspect that an electrolytic or two
> are weak and rather than wholesale replace the lot, I'd rather just
> fix what's ailing.
>
> I did replace the power supply and HV caps about a year ago so I don't
> think that is the issue.
>
>
> Sadly, I don't have the time to spend lately to troubleshoot
> everything, and it isn't my best area to begin with, coupled with
> other projects I'm working on, and I'd like for you knowledgeable
> souls to point me at some likely culprits to check to remedy this
> situation.
>
>
> Cheers.
>

>

49356. Re: Alignment question 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-18 11:57:18 UTC
From: wagstw46@...
Topic: 49348 Message: 49356

Not stupid just need to get more familiar with the service manual format and the radio physical layout and test point locations.

About 90% of time if you dont get the expected results when adjusting a trim pot, slug tuned coil, or trim capacitor you are on the wrong test point or adjusting the wrong device. Sometimes can be a problem with the test gear and associated test cables, but more commonly wrong test point or wrong adjustment is being used.

Adjusting Carrier Oscillators isnt going to affect your frequency response of your new 500hz filter, but should do it to ensure you have proper SSB frequency response. In addition to doing the audio injection wattmeter method you can use audio spectrum analyzer software like Spectrogram which does a great job and certainly a few bucks cheaper than a Spectrum Analyzer. I give all my customers a copy of Spectrogram as left response curves. Of course has element of personal preference to it and free to set to more bass or more treble presence. That is why KW gives easy access thru bottom cover holes. Even moving and banging the rig around can move the trimmer cap positions.

It doesnt take much movement of TC-3 on IF board to produce carrier on your SSB output signal. I usually exercise these trimmers multiple times lock to lock before adjusting as they can sit in one spot for a very long time and get very touchy when you try to adjust. Ok to use a little Deoxit as well.

Simple check is to do a single tone test. You inject 1khz audio into the mic line and use an O-scope with an inline RF sample device (a dummy load with a capacitive sniffer, a coax tee with resistive or capacitive divider, wrap a coil around the coax jumper, or use a 40dB attenuator tap).

Connect rig to dummy load with external wattmeter in line and the RF tap.

Use approx 7mv of audio. Adjust the mic gain for approx half power (no more than 50 watts as you will be running key down longer than normal). If Carrier suppression is not adjusted properly you will see the 1khz ripple on the envelope.

If you search on this subject can see various test set ups including pictures of the O-scope waveform. Can also see unwanted or opposite sideband suppression. Subject for another day.

Terry K9TW

---In TS-520_820_530_830@yahoogroups.com, <n612dw@...> wrote :

egads...

this is what i meant by stupid... duh !

i dont think things are messed up badly as i just barely made an adjustment to observe, and moved it where i thought it was prior, an stopped since something wasn't right.

i have a pretty good set of test equipment at my disposal so that's not really a problem, all except for a good RF Spectrum Analyzer (too much buckage for my little usage).

tnx terry, i missed it because i was looking at the "unit" column of the measurement, NOT the "unit" column for the adjustment. Limitations of the screen size when looking at a PDF file got me.

now its obvious... all i can do is chuckle at myself at this point ! :-)

tnx agn

-bob, w9zv

49357. Re: Drifting

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-18 12:09:32 UTC
From: wagstw46@...
Topic: 49354 Message: 49357

Brent:

Not being critical but why does a bad electrolytic come to mind? I see this a lot for various operating issues and dont understand it.

If it quits drifting up and down with time and cycling power on and off how does the bad electrolytic get better?

I would do simple thing first and that would be to clean the VFO air variable capacitor rotor shaft wiper contact.

How to do this has been covered numerous times. Most recently by Mike W5RKL. Search on message 49307.

Have to pull the VFO to do this. Observe caution when re-installing so you dont pinch the VFO pilot lamp power leads.

If this doesnt help come back.

Terry K9TW

49358. required information

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-18 16:40:17 UTC
From: Joseph Stiles
Topic: 49358 Message: 49358

Greetings Group!

  Over the past month or so, this group has seen a surge in membership. What saddens me the mostis that "newly added members" fail to read the "WELCOME MSG" that is auto-sent to them upon granting of membership.

So you don't have to waste your time looking for it, I'll give you the short version: ALL POSTS/MSGS WILL HAVE AN ATTACHED NAME(Christian/first name) AND CALL SIGN(if any).

Mike-w5rkl(group moderator) and myself, Joe-wb7uqu(group co-owner) have spent too much time "reminding" members to properly sign their posts as required by group policy.

SO, let it be known that: For "moderated members," offending party/parties will be warned ONCE, and after that...any further post/msg will be rejectedunless properly signed. For "un-moderated" members, you get that same warning...then if there is non-compliance...you will be put on "moderate."

You can set up your "Yahoo email" account to automatically add your required information:

   Look in the upper RIGHT HAND CORNER of your "yahoo mail page." Look for the "cog wheel" symbol, put cursor over it, a drop down box will open, click on "settings," click on "writing email" enter required information in the rectangular box...you can even select font type and size and save.

Thanks for your attention to this matter.....

73 Joe
WB7UQU
Kenwood TS-520_820_530_830 Yahoo group Co-owner

49359. Re: [TS-520_820_530_830] required information

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-18 16:46:19 UTC
From: Adrian Ellison
Topic: 49358 Message: 49359

To that I might add that you can also wind up on "moderate" if you should happen to expose a "moderator" as not as knowledgeable as he/she purports to be.

Adrian - ZS1TTZ

On Friday 18 July 2014 09:40:17 you wrote:
> Greetings Group!
>
> Over the past month or so, this group has seen a surge in membership. What
> saddens me the mostis that "newly added members" fail to read the "WELCOME
> MSG" that is auto-sent to them upon granting of membership.
>
>
> So you don't have to waste your time looking for it, I'll give you the short
> version: ALL POSTS/MSGS WILL HAVE AN ATTACHED NAME(Christian/first name)
> AND CALL SIGN(if any).
>
> Mike-w5rkl(group moderator) and myself, Joe-wb7uqu(group co-owner) have
> spent too much time "reminding" members to properly sign their posts as
> required by group policy.
>
>
> SO, let it be known that: For "moderated members," offending party/parties
> will be warned ONCE, and after that...any further post/msg will be
> rejectedunless properly signed. For "un-moderated" members, you get that
> same warning...then if there is non-compliance...you will be put on
> "moderate."
>
> You can set up your "Yahoo email" account to automatically add your required
> information:
>
> Look in the upper RIGHT HAND CORNER of your "yahoo mail page." Look for
> the "cog wheel" symbol, put cursor over it, a drop down box will open,
> click on "settings," click on "writing email" enter required information in
> the rectangular box...you can even select font type and size and save.
>
> Thanks for your attention to this matter.....
>
> 73 Joe
> WB7UQU
> Kenwood TS-520_820_530_830 Yahoo group Co-owner

49360. Re: Shorting Plug For TS-820/820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-18 23:50:15 UTC
From: James Scribner
Topic: 49346 Message: 49360

Joe have you tried here? I bought a couple here 6-8 mos. ago.

http://www.hybridrestore.com/parts/#removfo

49361. Re: Shorting Plug For TS-820/820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-18 23:51:49 UTC
From: James Scribner
Topic: 49346 Message: 49361

OOPS Yes I forgot name on parts help to Joe!

73
W5SWM-JIM

49362. RE: [TS-520_820_530_830] Re: Shorting Plug For TS-820/820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-19 00:09:22 UTC
From: Joe Wolfe
Topic: 49346 Message: 49362

Thank-you Jim! Just ordered 2….I was really looking for the tube sockets, but the price for these already made up was right, so I ordered 2, and now I won't have to 'make 'em myself'.

I have 2 820's I am going to sell and I want them complete.

Joe – W7RKN

Reno, Nevada

From: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com]
Subject: [TS-520_820_530_830] Re: Shorting Plug For TS-820/820S

Joe have you tried here? I bought a couple here 6-8 mos. ago.

http://www.hybridrestore.com/parts/#removfo

49363. Newbie

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-19 16:20:34 UTC
From: ttinagero1195@...
Topic: 14775 Message: 49363

Hello all, my name is terry and I am new to the group and ham radio. This group has supplied me with a vast amount go info re my newly acquired ts-520 kenwood. I am trying to restore/repair it some it may live again. So I just wanted to say thanks to all who have posted re the 520, I am well on my way thanks to you.

Terry Tinagero
KK6DQC

49364. DC Hi-pot Testing of 6146 Final Tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-20 02:15:35 UTC
From: wagstw46@...
Topic: 49364 Message: 49364

I added a write up about DC Hi-pot testing of 6146 final tubes under the How To section on my website k9tw.com. If you have questions please email me off the Reflector.

I had several questions from people who viewed the pictures of the test set worth sharing.

1. YES- the tester has a cover. It is a simple double U box construction. I had the top U cover off as I had just changed out the .01uf 4000wvdc filter caps for a pair of .015uf 10,000wvdc caps which gave me more head room. I normally do not have the cover off. I should have put the cover back on before taking the pictures. NO- it is not unsafe to run with the cover off. It is no more unsafe than with the PA cage cover off of your KW hybrid in order to observe source of arcing or to measure anode voltage. No more unsafe than defeating the lid interlock on your high power linear amplifier. You must be aware that you are within reaching and falling distance of high voltage and must utilize proper safe work practices when any cover is removed for access to high voltage circuits. It is a part of our hobby and part of being a technical and thinking person.

2. NO- I am not concerned about tracking or leakage across the base board. It is a piece of aspen that I had and I applied three coats of clear polyurethane varnish to it and the high voltage components are all mounted on 1 inch glazed porcelain standoff insulators. The low voltage components are all terminated on barrier terminal strips. There is no leakage or tracking across this board.

3. NO- I do not want a pilot lamp to tell me if the unit is powered on. I have room for one below the On-Off switch and I decided not to install it as I do not want a burned out lamp to fool me in to thinking the power is off. I always unplug the line cord from the 120vac when connecting or disconnecting any DUT (device under test) to the test set. It does not take long for the filter caps to bleed off after unit is de-energized.

I am pleased that several people had questions about safety.

Terry K9TW

49365. No ALC Indication and only 3W output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-19 21:54:08 UTC
From: peterlake2003@...
Topic: 49365 Message: 49365

Hi
Had a fault with this TS520s that damaged the FET shown as Q3 on the schematic of the RF Board, the FET fitted was a 3SK40, I was not able to get this but replaced it with a 3N212, this then brought the TIF signal through this stage.
The symptoms I have now are:-
Normal Bias Levels of 60mA on SSB no signal
60mA at tune Switch to CW this increases to 100mA
Into a dummy load on 14MHz I can see at tune a power level of 1W
when in tune and 3W in CW.
All of the voltages seem to be present and correct.
Reading else where I see that the ALC indication is a direct indicator of the performance of the driver so my question is Should I suspect the driver?
and is there any test I can do to prove this is the fault?
Any help would be appreciated.
Thanks
Peter

49366. TS-820S Mic/ALC Question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-19 23:25:31 UTC
From: WQ8Q
Topic: 49366 Message: 49366

I have a recently acquired TS820S to go along with my TS-520.
I use a Kenwood MC-60A Mic for either of them, set at 50K impedance.
With the TS-520, I can easily accomplish maximum allowable ALC with the Mic control on about 2.5 and if I increase the Mic control, I can easily pin the ALC meter to the opposite side.
However, on the TS-820S I can just barely make max ALC and that's with strong voice peaks or whistle into the mic.
Normal speech just won't do it. And that is with the Mic control set on 2.5 - 3.
Increasing the Mic control to max does nothing to increase the ALC.
This is the same with or without the Processor on.

I was hoping to ask this question on the Saturday Kenwood Hybrid Net, but that hasn't been on for several weeks.

Any suggestions?

73 de Rick WQ8Q

49367. Moderators! Please take the scolding off the list!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-20 02:20:37 UTC
From: Tim Sherva
Topic: 49367 Message: 49367

While I agree that there has been a rash of unsigned messages recently, I don't think reminding everyone that reads or participates on this list, about the policy every time that it happens. MOST OF US KNOW! Its a waste of bandwidth to post to the general list. Shouldn't these warnings be address to the accused directly? I enjoy reading this list and most times I would not even notice that the message was unsigned as long as it is on topic as almost all seem to be.

Sorry to wast everyones time posting this but someone I thought someone need to say it.

Tim Sherva- KF5RLL

49368. Re: No ALC Indication and only 3W output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-20 11:31:41 UTC
From: peterlake2003@...
Topic: 49365 Message: 49368

Just like to add Q3 should read Q1.

49369. Re: No ALC Indication and only 3W output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-20 13:08:27 UTC
From: wagstw46@...
Topic: 49365 Message: 49369

Peter

Q1 TX Mixer very seldom fails in service. Low RF drive at output of Q1 is more commonly due to low TIF input from the IF board or low or missing Het Osc input (local oscillator level needs to be approx 1.0vdc rms rf on all bands)

You say all voltages are OK. Do you mean RF signal voltages and DSGG DC voltages are OK? I suspect you mean DC voltages?

Usually when troubleshooting low RF drive you would take RF signal voltages first and where you find them not to spec then take DC voltages at the pins of the active device involved.

Pretty easy to measure RF drive levels if you have RF probe and VTVM or an O-scope. Look at TX Level Diagram in service manual for the levels you should see. At TP-2 (at Q1 TX Mixer) you should see approx 200mv and at MD you should see approx 2.0 rf volts. Take these with the SG switch off. Dont get on the Driver plate circuit with single diode RF probe.

If you have no way to measure the "goes ins " and "goes outs" at the TX Mixer then can do a simple Driver Stage test as follows (posted here many times).

1. Screen grid switch off
2. Heaters on
3 CW mode
4. CAR Level at 1200
5. Panel meter at ALC
6. VFO at approx 200
7. Drive Control at 1200

Flip to Send and peak the Drive control for full scale ALC indication. May need to increase the CAR level pot to get FSD indication. Leave rig keyed a few seconds to see if the ALC indication starts to slowly fall off FSD. First place to see this is usually on 10 meters and it is telling you that emission is down on the 12BY7A tube.

Repeat on all bands and let the Driver tube rest a few seconds between bands as it is running Class A with about 27ma Ip and runs pretty hot. If you can run this test it tells you that the Driver Stage is fine and that means all components (interstage coupling caps, parallel resonant tuned circuits in grid/plate circuit, bandswitch contacts, active devices, RF signal levels, operating bias voltages etc)

With exception of 10 meters you should be able to get FSD ALC indication with the CAR pot advanced no more than #3 to #4 position.

Terry K9TW

49370. TS-520 and Vibroplex Standard bug

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-20 14:01:05 UTC
From: lpleach@...
Topic: 49370 Message: 49370

Hello all,
I've been looking all over for some basic information on my TS-520 and have no luck at all. This is concerning the CW mode and the phone jack. The manual states that you need a 1/4" phone jack, but says nothing about whether it is just mono or stereo. Nothing is mentioned in this group either. Looks like everyone is either using a straight key or an electronic keyer.
I recently acquired a 1966 Vibroplex standard bug with 3 posts and this would use a stereo jack but I cannot tell if this would work properly on the 520. I'll have to make may own cable and I'd like to get it right the first time. Does the 520 even support this kind of key?
Thank you in advance for your help.

Larry
KF5YZZ

49371. Re: [TS-520_820_530_830] TS-520 and Vibroplex Standard bug

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-20 14:26:10 UTC
From: Mike W5RKL
Topic: 49370 Message: 49371

Hi Larry,

You can use either a MONO or STEREO 1/4" plug.

The only connections used on either a 1/4" MONO or STEREO plug are the
"TIP" and "SLEEVE".

The "TIP" is the keying voltage which is negative, approximately -65VDC.
The "SLEEVE" is the "GROUND".
The STEREO plug's "RING" connection is not used nor is it connected to
any key/bug/keyer output.

Most all electronic keyers will work and key the 520 transceivers
without any problem. However, make sure any keyer you use will key at
least -100VDC which most electronic keyers will do.

73
Mike W5RKL

On 7/20/2014 9:01 AM, lpleach@... [TS-520_820_530_830] wrote:
>
> Hello all,
>
> I've been looking all over for some basic information on my TS-520
> and have no luck at all.
>
> This is concerning the CW mode and the phone jack. The manual states
> that you need a 1/4" phone jack, but says nothing about whether it is
> just mono or stereo. Nothing is mentioned in this group either. Looks
> like everyone is either using a straight key or an electronic keyer.
>
> I recently acquired a 1966 Vibroplex standard bug with 3 posts and
> this would use a stereo jack but I cannot tell if this would work
> properly on the 520. I'll have to make may own cable and I'd like to
> get it right the first time. Does the 520 even support this kind of key?
>
> Thank you in advance for your help.
>
>
> Larry
>
> KF5YZZ
>
>

49372. Re: [TS-520_820_530_830] TS-520 and Vibroplex Standard bug

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-20 14:27:42 UTC
From: Mike W5RKL
Topic: 49370 Message: 49372

The 1/4" MONO plug does NOT have a "RING" connection, only a TIP and
SLEEVE. I should have included that in my response.

73
Mike W5RKL

On 7/20/2014 9:26 AM, Mike W5RKL wrote:
> Hi Larry,
>
> You can use either a MONO or STEREO 1/4" plug.
>
> The only connections used on either a 1/4" MONO or STEREO plug are the
> "TIP" and "SLEEVE".
>
> The "TIP" is the keying voltage which is negative, approximately -65VDC.
> The "SLEEVE" is the "GROUND".
> The STEREO plug's "RING" connection is not used nor is it connected to
> any key/bug/keyer output.
>
> Most all electronic keyers will work and key the 520 transceivers
> without any problem. However, make sure any keyer you use will key at
> least -100VDC which most electronic keyers will do.
>
> 73
> Mike W5RKL
>
>
> On 7/20/2014 9:01 AM, lpleach@... [TS-520_820_530_830] wrote:
>>
>> Hello all,
>>
>> I've been looking all over for some basic information on my TS-520
>> and have no luck at all.
>>
>> This is concerning the CW mode and the phone jack. The manual states
>> that you need a 1/4" phone jack, but says nothing about whether it is
>> just mono or stereo. Nothing is mentioned in this group either. Looks
>> like everyone is either using a straight key or an electronic keyer.
>>
>> I recently acquired a 1966 Vibroplex standard bug with 3 posts and
>> this would use a stereo jack but I cannot tell if this would work
>> properly on the 520. I'll have to make may own cable and I'd like to
>> get it right the first time. Does the 520 even support this kind of key?
>>
>> Thank you in advance for your help.

```
>>
>>
>> Larry
>>
>> KF5YZZ
>>
>>
>
```

49373. [TS-520_820_530_830] TS-520 and Vibroplex Standard bug

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-20 14:44:13 UTC
From: Ken Winterling
Topic: 49370 Message: 49373

Larry,

Are you sure it is a "bug", a key with a long center spring-mounted arm with a weight at the end? My Original Standard bug has only 2 terminals and also has the two wire "wedge" plug and cord. I replaced the wedge cable with one wired with a TS (Tip, Sleeve) mono plug. Some newer rigs require that a straight key (or bug) be wired with a TRS plug but use only 2 of the 3 connections. The TS-520 uses a 1/4" mono, or TS plug

The VibroKeyer I have does have 3 terminals and needs a TRS (Tip, Ring, Sleeve) "stereo" plug. It is intended to be used with an electronic keyer, either internal to the rig or an external unit.

On Sunday, July 20, 2014, lpleach@...
<javascript:_e(%7B%7D,'cvml','lpleach@...');> [TS-520_820_530_830] <
TS-520_820_530_830@yahoogroups.com
<javascript:_e(%7B%7D,'cvml','TS-520_820_530_830@yahoogroups.com');>> wrote:

>
>
> Hello all,
>
> I've been looking all over for some basic information on my TS-520 and
> have no luck at all.
>
> This is concerning the CW mode and the phone jack. The manual states that
> you need a 1/4" phone jack, but says nothing about whether it is just mono
> or stereo. Nothing is mentioned in this group either. Looks like everyone
> is either using a straight key or an electronic keyer.
>
> I recently acquired a 1966 Vibroplex standard bug with 3 posts and this
> would use a stereo jack but I cannot tell if this would work properly on
> the 520. I'll have to make may own cable and I'd like to get it right the
> first time. Does the 520 even support this kind of key?
>
> Thank you in advance for your help.
>
>
> Larry
>
> KF5YZZ
>
>
>

--

Ken
WA2LBI
Sent from one of my mobiles

49374. Re: No ALC Indication and only 3W output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-20 15:29:46 UTC
From: wagstw46@...
Topic: 49365 Message: 49374

Peter

I forgot to mention that if you have no ALC indication on any band then the Driver stage test procedure I provided you will not work.

If this is the case then best way to troubleshoot is to run the TX Level Diagram to see where you are losing the RF drive voltage at. You will need more than 39rf volts at the control grids of the finals for any ALC indication.

Also, you can measure the operating bias at the 6146 final tubes and make sure it is switching from approx -100vdc cut-off bias in Rx mode to approx -55vdc operating bias in TX mode. If it is not, then no amount of normal RF voltage swing at the control grids will result in ALC indication as wont be able to make the control grid positive with respect to the cathode and no grid current can flow.

If operating bias voltage is normal and you have less than 39rf rms rf volts at control grids need to work your way back thru the Driver stage to see where you are losing it at.

Again I would start at TP-2 and measure TIF input to the new TX Mixer mosfet that you just put in (perhaps you have a bad 3N212?) and measure output at Drain of the new mixer at MD. I would also be 100% certain you didnt swap leads on the 3N212.

Terry K9TW

49375. Re: TS-520 and Vibroplex Standard bug

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-20 14:22:52 UTC
From: wq8q@...
Topic: 49370 Message: 49375

Larry, you must have a Vibroplex Iambic Paddle, as the semi-automatic bug uses only two terminals. The 520 only takes a 2 conductor plug . . . so for the paddles you would need an electronic keyer, and one which will key negative voltages (I think -65v on the 520)

A semi automatic bug plugs right into the hybrid line just like a straight key would.
You could use your paddles as a cootie key, but that's a whole 'nother ball game.

73 de Rick, WQ8Q (user of Vibroplex Bug AND GHD & TWanger cootie keys)

49376. Re: Drifting

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-20 18:17:57 UTC
From: wagstw46@...
Topic: 49354 Message: 49376

I didnt see any response relative to cleaning the VFO air variable rotor shaft wiper contact?

If that does not resolve your problem then next step would be to look at the regulated 9vdc to the VFO.

Absent a DMM or O-scope to monitor it you can try cleaning the voltage adjust trimmer pot VR-2 on the AF board.

Can also carefully remove clean and reseat Molex Conn 10 on the AF board, and lastly could exercise and clean the Mini-din switch inside the Ext VFO jack on rear panel. Usually if the mini-din or molex connector is bad the VFO will be intermittent or non-operational. A dirty VR-2 might act better after it gets some current thru it during the warm up phase?

After exercising and cleaning VR-2 you will need to set it so you have 9vdc at TP-6.

Terry K9TW

49377. Re: Drifting

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-20 21:38:39 UTC
From: anfinn_fo@...
Topic: 49354 Message: 49377

My 2 cent on drifting.
The boat anchors like my TS-820 are 30+ years old and so are all boards for the series.
Don't expect any board to be better or worse than the original one in the receiver.

When I got the TS-820 6 months ago I gave it an overhaul.
First I downloaded the service manual, and all additional info on faults and mods.
Checked all resistors in final and drive.(had to swap 4-6)
Then followed all adjustments according to TS-820 alignment manual.
Got 2 set new final and driver tubes (one for spare)
After figuring out drift were related to 9V rail I removed all bits in the regulator and installed a LM317 regulator, caps and resistors to get 9.00V
Removed the Zener and resistor for the 14V rail and installed a LM317 + additional bits to get 13.95V

I think most boat anchors owners believe every bit have to be the same as when the rig left the conveyor belt at the factory. I have to agree, but there is no excuse to drift or jump around the band. Some components and parts have to be sacrificed for new components to meet today's standard as far as possible. New voltage regulators are inexpensive and easy to install.
After 2 months I realized I still had problems. It was not represented when I had RIT pressed.
Traced it to the VR2 on the AF Board. It was removed and installed a fixed 4.3K resistor.
It was spot on (at least as close to to be 99% in middle of the RIT adjustment compared to when RIT is disengaged.
Looks like my 820 is working fine ATM.

Anfinn OY3A

49378. Re: Drifting

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-20 22:56:40 UTC
From: wagstw46@...
Topic: 49354 Message: 49378

Anfinn:

It has been suggested here several times over last couple of years to mod the radios with modern 3 terminal regulators.

Of course anyone is free to do so and modifying radios is the essence of the hobby for some folks.

The other option is to install "huff and puff" circuits and that has been addressed here as well. Again that is owners prerogative if they want to do that. There are at least two designs that work well.

However, there is no reason why a linear series pass regulator cannot be made to function to meet the original warm up and long term drift specs for any of the KW hybrids. Have to remember these radios were intended primarily for CW and SSB modes and not the so called modern digital modes some run today which require tighter specs. I am not familiar with running these modes with KW hybrids so dont know if need to mod the rig low voltage regulated supplies or not.

I troubleshoot and repair radios for KW hybrid owners and I try to return them back to factory Rx and Tx performance utilizing the as built design configurations. About only "mods" I do is to install substitute active devices when the originals can no longer be purchased. So my suggestions to all owners who come here for help will focus on how to fix the radio and not how to mod the radio.

Of course you and others are free to suggest modifications and some folks may appreciate and take your counsel.

As far as old design the 820PLL certainly falls into that category. You might want to look into replacing the Het Osc crystals for starters. Also, the digital display is constant source of problems and new technology has answers for that as well.

Terry K9TW

49379. Hybrid Legacy Net Update (July 20, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-21 00:33:09 UTC
From: Mark Gilger
Topic: 49379 Message: 49379

Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

The net recently celebrated it□s 2nd year in existence on November 1st, 2013. The yearly check-in totals are posted at the bottom of this message. It showed we had a 10% increase in our Saturday check-ins and an 8% on Sunday as compared to the 2012 check-ins.

The Saturday net was run by me, Stu, K4BOV. There were 15 stations checking in under good band conditions. We had the following number of radios checking in.

The Sunday net was run by me, WB0IQK. There were 12 stations checking in under good band conditions. We had the following number of radios checking in.

6 running TS-520(x)
1 running TS-530(x)
2 running TS-820(x)
0 running TS-830S
0 running TS-511
0 running 599 twins

The reset were running non Kenwood hybrid equipment.

I was running my TS-820s twins (TS-820S + R820).

We have been having several people checking in regularly with their TS-430, TS-440, and TS-940□s, which of course is not a hybrid, although over 30+ years old. Everyone is welcome as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a net control station, please send me an email. Currently it's just myself, WB2KNR and WB0SGA. I would like to get several more. If we do, we can alternate so everyone might be on a 3-4 week rotation. It's a lot of fun and a good way to make sure you station is optimized.

For anyone that has not heard, we have a new web site that WB4HFN is hosting. He currently has a very nice site for Drake, Collins and Heathkit and now Kenwood Hybrids. Good quality manuals plus sale flyers and brochures will be found here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 ☐ Oct. 2012 Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins

November 2013, Saturday☐s net total = 94, Sunday☐s total = 85
December 2013, Saturday☐s net total = 87, Sunday☐s total = 103
January 2014, Saturday☐s net total = 71, Sunday☐s total = 82
February 2014, Saturday☐s net total = 80, Sunday☐s total = 85
March 2014, Saturday☐s net total = 82, Sunday☐s total = 73
April 2014, Saturday☐s net total = 64, Sunday☐s total =43
May 2014, Saturday☐s net total = 66, Sunday☐s total = 35
June 2014, Saturday☐s net total = 43, Sunday☐s total = 59
July 2014, Saturday☐s net total = 15, Sunday☐s total = 26 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

49380. Re: Drifting

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-21 01:41:25 UTC
From: anfinn_fo@...
Topic: 49354 Message: 49380

Terry

Don't get me wrong.
Quote:
"there is no reason why a linear series pass regulator cannot be made to function to meet the original warm up and long term drift specs for any of the KW hybrids. Have to remember these radios were intended primarily for CW and SSB modes"

I agree with Your statement, even 100%. If time skill and will is there is no problem to have the rig in same shape and up to specification as it was when leaving factory.
If I had my 820 at a skilled shop for repair I would expect repair was to design configurations, unless told it was not possible.
It is a pleasure to see You have skill and pride to tell You do your repair to the original design.
Quote (mine):
"I have to agree, but there is no excuse to drift or jump around the band."

Sadly we have to admit all the skill in old components and circuits is getting harder to find (even with the help of internet) simply because many of the old school skilled people are not here any longer to tell.

Components stability issues that were common ham knowledge 30-40 years back is not that any longer. The younger hams don't know unless they are graduated engineers, simply because it is all digital and or SMD components populated board You don't repair.

My 2 cent were only to put in a way to line up a progress starting with documentation and trying to figure out what may be the cause or be able to ask the right question. The impression I have got so far is that most questions are more or less random, proving lack of homework.
All You skilled men deserve better than spending time to tell same story over and over again to us less skilled .
Repair on discrete component populated circuits is by no means a black art or magic,but a clear progress by understanding how it was intended to work and where it is at fault.

If an owner have 2 AF boards is it a quick solution to modify 1 board and figure out if it is at fault or the VFO.
I would never suggest to start messing up with the VFO unless other components/ boards are cleared first. If a person can't figure out the voltage issue and how to fix it I don't think he would be able to fix the VFO.
This last note is not for the old lads who have home-brewed radios, but more to the fact that these boat anchors are sold very cheaply and is therefore attractive to newcomers and others who have never had the opportunity to explore hybrid and radios built with discrete components.

I was lucky that I was allowed to repair some of the very last tube populated TV's, but I had to refresh my mind when I was looking at the final in the TS-820.
The mods on my 820 simply because I did not know the history of the rig, and I did not have

the time to do try on error on the voltage regulators.
I have not used it for any digi modes and probably never will, even I know the previous owner sold it cheap for a reason (he is all digital)

In 20 years will all receivers be SDR except from a few placed in radio museum's. The exceptions will be the few which are still able to run more or less in their original condition. To keep the interest running one needs to accept the modifications and upgrades as an opportunity to keep our spirits up.

My experience when using my 820 is that nobody would answer unless I was pretty close in freq (less than 100 Hz) and if I was jumping or transmitting 3.5KHz lower not a single one would reply, even less telling me I had some issue. Sure I should know better. Fingers crossed it will work as now where I get nice reports on signal (clean from splatter) and outstanding clear modulation.

Quote:
"Also, the digital display is constant source of problems and new technology has answers for that as well."

I would be pleased if You could provide a link to a true digital readout. Only I have seen are done by an offset for the IF.

Anfinn OY3A

49381. Re: Drifting

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-21 12:29:05 UTC
From: wagstw46@...
Topic: 49354 Message: 49381

Anfinn

I had no problem with your recommendation. I did my share of mods on many rigs over the years. Made lots of changes to HW-101s to improve them. Just wanted to explain to you why I always try to return customers radio to factory design config and why I advise new people how to do that.

Only recommendation I ever make about the VFO is to clean the rotor shaft wiper contact. It is a common source of VFO problems and easy to access and clean. There is a difference in VFO drift and VFO jumping or dropping out. Drift usually is not caused by corroded wiper contact. It is more commonly caused by the 9vdc supply. Drift can also be due to problem on the PC board. On rare occaisions one or more of the temperature compensating NPO capacitors will have changed values and sometimes just cleaning the board will help. So it is important to make sure you understand what issue the person is really experiencing. Over the years I have had a few VFOs that I just could not tame. I think in those instances the Huff and Puff would be way to go.

Yes we constantly repeat same things over and over again. I suspect may be due to the keyword search feature not being as user friendly as it could be. I have started to put some of the common questions on my website but much work to do there. Trouble shooting low RF drive is a frequent repeat question and I need to write up a good procedure on how to run the TX Level Diagrams and post on my site.

73s
Terry K9TW

49382. Re: TS-520 and Vibroplex Standard bug

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-21 12:53:45 UTC
From: lpleach@...
Topic: 49370 Message: 49382

The key is stamped underneath "VIBRO KEYER" and "STANDARD."
There are 3 terminals opposite of the paddle. The middle one is only connected to the base itself, going nowhere. 2 metal strips connect the other 2 terminals to the left and right contacts on the key. (One long and one short.)
So it looks like I could set this up like a straight key, but to get the dits and dahs for left/right I'll need an electronic keyer. Right?

(Thanks for the replies guys!)

Larry
KF5YZZ

49383. Re: TS-520 and Vibroplex Standard bug

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-21 13:10:21 UTC
From: w5rkl@...
Topic: 49370 Message: 49383

Hi Larry,

The Vibroplex "Keyer" you have is not a "Keyer", it's a "Paddle" that allow the operator to connect it to an "Electronic Keyer" such as an MFJ-407D or an old vacuum tube "Keyer" such as the Eico 717 or Hallicrafters HA-1 keyer.

The Eico and Hallicrafter's vacuum tube keyers use "Reed Relays" to key the transmitter. The MFJ-407D keyer uses a transistor to key the transmitter.

None of the Kenwood Hybrid transceiver have a built in electronic keyer. Therefore, if you use the Vibroplex paddle you will only be able to use it as a "straight key", you form all the dits and dahs yourself.

73
Mike W5RKL

49384. Re: TS-520 and Vibroplex Standard bug

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-21 15:36:52 UTC
From: lpleach@...
Topic: 49370 Message: 49384

Awesome. Thanks for all of your help!!!

Larry
KF5YZZ

49385. U.S. House of Representatives: Co-sponsor HR .4969, the “Amateur Radio Parity Act of 2014”

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-21 18:24:56 UTC
From: synovial_98@...
Topic: 49385 Message: 49385

Hi Fellow Hams and Kenwood Hybrid Enthusiasts,

I normally refrain from passing along politically-related material, but this does potentially favorably impact HOA-residing hams who would like to install antennas, etc on their property.

I signed this petition and encourage everyone to give it an eyeball and a signature.

You can view it here:
U.S. House of Representatives: Co-sponsor HR.4969, the “Amateur Radio Parity Act of 2014”
http://www.change.org/petitions/u-s-house-of-representatives-co-sponsor-hr-4969-the-amateur-radio-parity-act-of-2014?recruiter=21118762&utm_campaign=signature_receipt&utm_medium=email&utm_source=share_petition

http://www.change.org/petitions/u-s-house-of-representatives-co-sponsor-hr-4969-the-amateur-radio-parity-act-of-2014?recruiter=21118762&utm_campaign=signature_receipt&utm_medium=email&utm_source=share_petition

U.S. House of Representatives: Co-spons... http://www.change.org/petitions/u-s-house-of-representatives-co-sponsor-hr-4969-the-amateur-radio-parity-act-of-2014?recruiter=21118762&utm_campaign=signature_receipt&utm_medium=email&utm_source=share_petition HR.4969 would require the FCC, within 120 days of the Bill’s passage, to amend the Part 97 Amateur Service rules to apply PRB-1 coverage to include...

View on www.change.org http://www.change.org/petitions/u-s-house-of-representatives-co-sponsor-hr-4969-the-amateur-radio-parity-act-of-2014?recruiter=21118762&utm_campaign=signature_receipt&utm_medium=email&utm_source=share_petition
Preview by Yahoo

Thanks for your time.

73,
Ken
WB4EJZ
TS-520S
TS-830S

49386. Re: [TS-520_820_530_830] U.S. House of Re presentatives: Co-sponsor HR.4969, the “Amate ur Radio Parity Act of 2014”

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-22 00:25:08 UTC
From: KB1TCD
Topic: 49385 Message: 49386

Wait a minute, you bought property knowing darn well that it had antenna restrictions and
now you want a Congress who can't get themselves out of a paper bag to fix it for you?
Really???

Jose Douglas KB1TCD

On 7/21/2014 2:24 PM, synovial_98@... [TS-520_820_530_830] wrote:
> Hi Fellow Hams and Kenwood Hybrid Enthusiasts,
>
> I normally refrain from passing along politically-related material,
> but this does potentially favorably impact HOA-residing hams who would
> like to install antennas, etc on their property.
>
> I signed this petition and encourage everyone to give it an eyeball
> and a signature.

49387. Re: [TS-520_820_530_830] U.S. House of Repres entatives: Co-sponsor HR.4969, the “Amateur Radio Parity Act of 2014”

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-22 01:16:32 UTC
From: Ken Webb
Topic: 49385 Message: 49387

Hey, a guy can dream, right?
73,
WB4EJZ

On Monday, July 21, 2014 8:25 PM, "KB1TCD kb1tcd@... [TS-520_820_530_830]"
<TS-520_820_530_830@yahoogroups.com> wrote:

Wait a minute, you bought property knowing darn well that it had antenna
restrictions and
now you want a Congress who can't get themselves out of a paper bag to
fix it for you?
Really???

Jose Douglas KB1TCD

On 7/21/2014 2:24 PM, synovial_98@... [TS-520_820_530_830] wrote:
> Hi Fellow Hams and Kenwood Hybrid Enthusiasts,
>
> I normally refrain from passing along politically-related material,
> but this does potentially favorably impact HOA-residing hams who would
> like to install antennas, etc on their property.
>
> I signed this petition and encourage everyone to give it an eyeball
> and a signature.

Posted by: KB1TCD <kb1tcd@...>

Yahoo Groups Links

https://info.yahoo.com/legal/us/yahoo/utos/terms/

49388. Is it ever ok to turn up the CAR in midst conversation?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-24 14:08:36 UTC
From: va7pwk@...
Topic: 49388 Message: 49388

Last night I was working on the rig and was listening to all these stations booming away at me 59, near zero hiss. Two in particular I was trying very hard to get, one in Poland and the other in Austria. It was driving me nuts!! I could hear them like they were practically sitting in my lap, but here I was screaming away into my mic and to all intents and purposes, I wasn't there.

A few times during that 3 hours that I was on the air, I tried retuning various times, I retuned my antenna numerous times with the MFJ, trying to figure out what was wrong.

Eventually, out of desperation, I turned my CAR control up two notches (it was set at 12 o'clock) and the guy from Austria responded! Even then, signal was a 54 he said. There! Got my FIRST international contact! Boy, its taken awhile.

I wonder, was it the CAR control that did it? Or was it sheer luck?

I know, I know, I've got to do something with my homebrewed wire dipole. Right now, its strung from the trees, sloping from about 30 feet to about 10 feet, 16 feet on each leg, soldered directly to coax in the middle. Its good for only 20 m. I've got an Alpha Delta DXCC waiting in the wings. Gotta string that up quick before i lose my mind!

49389. Re: [TS-520_820_530_830] Is it ever ok to turn up the CAR in midst conversation?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-24 17:19:34 UTC
From: John Davidson
Topic: 49388 Message: 49389

Changing carrier setting got first SSB DX for you?
It was just coincidence. Maybe band conditions changed when you did the change.
Turning up the CAR control only affects the power output on CW ! Doesn't do ANYTHING in the SSB modes.
The dipole for 20M works best at 60 ft high.

My radio is Ham Radio...CW is Real Radio
73, John...K8JD

On Thursday, July 24, 2014 12:45 PM, "va7pwk@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Last night I was working on the rig and was listening to all these stations booming away at me 59, near zero hiss. Two in particular I was trying very hard to get, one in Poland and the other in Austria. It was driving me nuts!! I could hear them like they were practically sitting in my lap, but here I was screaming away into my mic and to all intents and purposes, I wasn't there.

A few times during that 3 hours that I was on the air, I tried retuning various times, I retuned my antenna numerous times with the MFJ, trying to figure out what was wrong.

Eventually, out of desperation, I turned my CAR control up two notches (it was set at 12 o'clock) and the guy from Austria responded! Even then, signal was a 54 he said. There! Got my FIRST international contact! Boy, its taken awhile.

I wonder, was it the CAR control that did it? Or was it sheer luck?

I know, I know, I've got to do something with my homebrewed wire dipole. Right now, its strung from the trees, sloping from about 30 feet to about 10 feet, 16 feet on each leg, soldered directly to coax in the middle. Its good for only 20 m. I've got an Alpha Delta DXCC waiting in the wings. Gotta string that up quick before i lose my mind!

49390. Re: [TS-520_820_530_830] Is it ever ok to turn up the CAR in midst conversation?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-24 17:35:31 UTC
From: W5RKL
Topic: 49388 Message: 49390

Mark,

"Screaming" into the microphone won't get you a contact. If anything it will get you complaints from other operators due to poor operating habits and possible splatter.

If you were still on 20 meter USB and you said you adjusted the CAR control and by doing so an Austrian station answered you, changing the CAR control setting in sideband mode had absolutely no affect on your transmit signal and power output level. The CAR control is "disabled" in sideband (USB or LSB). The CAR control is only enabled during TUNE and CW modes, never on sideband.

Working DX can be fun but it also can be a pain because a lot of DXers use high power but you're only running 100 watts and a dipole with no gain, you're going to have to work more to work DX. More than likely the reason the Austrian station answered you was because the noise level created by the many stations calling him, was significantly less and he finally heard you.

You also have to consider your antenna system. You hinted that you need to work on your antenna. If that's true than that would be the first place I would recommend you consider fixing.

73
Mike W5RKL

On 7/24/2014 9:08 AM, va7pwk@... [TS-520_820_530_830] wrote:
>
> Last night I was working on the rig and was listening to all these
> stations booming away at me 59, near zero hiss. Two in particular I
> was trying very hard to get, one in Poland and the other in Austria.
> It was driving me nuts!! I could hear them like they were practically
> sitting in my lap, but here I was screaming away into my mic and to
> all intents and purposes, I wasn't there.
>
> A few times during that 3 hours that I was on the air, I tried
> retuning various times, I retuned my antenna numerous times with the
> MFJ, trying to figure out what was wrong.
>
> Eventually, out of desperation, I turned my CAR control up two notches
> (it was set at 12 o'clock) and the guy from Austria responded! Even
> then, signal was a 54 he said. There! Got my FIRST international
> contact! Boy, its taken awhile.
>

> I wonder, was it the CAR control that did it? Or was it sheer luck?
>
> I know, I know, I've got to do something with my homebrewed wire
> dipole. Right now, its strung from the trees, sloping from about 30
> feet to about 10 feet, 16 feet on each leg, soldered directly to coax
> in the middle. Its good for only 20 m. I've got an Alpha Delta DXCC
> waiting in the wings. Gotta string that up quick before i lose my mind!
>
>
> ---
>

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http://www.avast.com

49391. Re: [TS-520_820_530_830] Is it ever ok to turn up the CAR in midst conversation?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-24 17:22:05 UTC
From: Mark PWK
Topic: 49388 Message: 49391

Thanks for the reply John! I guess it was just a coincidence then. And looks like I'll have to find a way to get my antenna to 60 feet!

73,
Mark VA7PWK

Moderators note:
Message trimmed of non-essential text

Mike W5RKL
Group Moderator

49392. Re: [TS-520_820_530_830] Is it ever ok to turn up the CAR in midst conversation?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-24 18:48:02 UTC
From: Wes Will
Topic: 49388 Message: 49392

On 07/24/2014 09:08 AM, va7pwk@... [TS-520_820_530_830] wrote:
> Last night I was working on the rig and was listening to all these stations booming away at me 59, near zero hiss. Two in particular I was trying very hard to get, one in Poland and the other in Austria. It was driving me nuts!! I could hear them like they were practically sitting in my lap, but here I was screaming away into my mic and to all intents and purposes, I wasn't there.
>
> A few times during that 3 hours that I was on the air, I tried retuning various times, I retuned my antenna numerous times with the MFJ, trying to figure out what was wrong.
>
> Eventually, out of desperation, I turned my CAR control up two notches (it was set at 12 o'clock) and the guy from Austria responded! Even then, signal was a 54 he said. There! Got my FIRST international contact! Boy, its taken awhile.
>
> I wonder, was it the CAR control that did it? Or was it sheer luck?

Nothing to do with this change. NOT recommended, and besides it doesn't effect SSB at all. You specifically don't HAVE a carrier in side-band mode. It's called a 'suppressed carrier' signal for a reason. You tune OUT the carrier when you align the radio, as part of the normal adjustments.

> its strung from the trees, sloping from about 30 feet to about 10 feet,

Yowch. THERE is your problem. You're using a dipole meant to be at least a half-wavelength (a full wavelength or more is really the correct height) above ground at a height of less than one-quarter wavelength above ground on average, sloping to considerably less than a quarter-wavelength. It isn't going to work very well.

Almost ALL of your signal is going either straight UP, the rest is mostly going straight into the ground. You're getting a really broad side-lobe, and not much of anything useful in the main lobe of radiation.

Either direction, up or down, it's all wasted energy, doesn't matter WHAT the SWR meter says. That antenna isn't doing much of anything useful. Probably get some local contacts, 100 miles or less, but beyond that is going to be nigh-on to impossible.

What is happening is that the ANGLE OF RADIATION is changing. It goes closer to 90 degrees (measured from the plane of the ground, 90 being straight up). You want the radiation angle to be around 45 degrees.

The lower/closer to ground you get, the higher that angle goes. Anything lower than 0.3 wavelengths causes the angle to go VERY QUICKLY higher, the rate of change increases a lot.

Put your antenna into one of the free antenna modeling programs and vary the height above ground. Watch what happens at around one-fourth wavelength, three-tenths wavelength, half, and one full wavelength. (Above one wavelength there is VERY little useful difference.)

You might consider one of the vertical antennas for that band. They're not all that huge, and they get pretty good results for not a lot of space. AND several designs of vertical don't have to be (shouldn't be) really high off the ground. You use radial wires buried in the soil around the base of the antenna, cut to resonate at the frequency of interest, to get the signal out of the wire and into the sky. In simple terms and within reason, the more ground radials you have, the better these sorts of antenna work.

There are tons of do-it-yourself plans for inexpensive antennas on the internet. Multiband trapped verticals are easy to build. (Horizontal ones aren't any harder. They just need more space side to side....)

--
Wes Will
SysAdmin

49393. Re: [TS-520_820_530_830] Is it ever ok to turn up the CAR in midst conversation?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-24 19:20:51 UTC
From: Mike W5RKL
Topic: 49388 Message: 49393

Mark,

If I may recommend a source of single sideband study it is the ARRL book titled "Single SideBand for the Radio Amateur". You can find this book on eBay and at hamfest. A person cannot understand how sideband works if they have no idea how sideband is processed in a SSB transceiver.

Another area one might consider is studying about antennas using the ARRL Antenna Handbook. I also recommend the older editions of the ARRL Handbook for antennas, less "filler fluff" contained in the older editions.

73
Mike W5RKL

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http://www.avast.com

49394. Re: Is it ever ok to turn up the CAR in midst conversation?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-24 22:17:46 UTC
From: wagstw46@...
Topic: 49388 Message: 49394

Mark:

KW design engineers spent money to design speech processors for the KW hybrids radios and depending on which model you have it can be a very effective RF processor. The TS-820 and TS-830 are particular effective if aligned properly. Often using it and using it correctly as described in the operator instruction manual can help you break those DX pile ups running barefoot with a modest antenna installation. Really fun when you can do that. I dont use processing with state side contacts but will use it if I am chasing some DX.

Terry K9TW

49395. Kenwood Twins For Sale

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-25 00:32:18 UTC
From: k7mks@...
Topic: 49395 Message: 49395

R-599D w/2m converter, T-599D, and unused Kenwood interconnecting cable. Exc. cosmetic and working condx. $650 FOB W WA. Pls reply direct or call 425.747.5349.

Joe k7mks

49396. Re: [TS-520_820_530_830] Is it ever ok to turn up the CAR in midst conversation?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-25 02:24:57 UTC
From: James Scribner
Topic: 49388 Message: 49396

Mark,
The advice given is correct, Car had no effect! What catches my eye is your antenna! 16X2=32ft? It is resonant at 14.625! Add 6 inches to each side, get the SWR closer to flat at the frequency area you are trying to work, and bypass the tuner. Good luck and good DX.
It's a good distance from Vancouver to So. Texas maybe we'll work on 20m:>D
73
W5SWM-Jim

49397. Re: [TS-520_820_530_830] Is it ever ok to turn up the CAR in midst conversation?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-25 04:15:40 UTC
From: Wes Will
Topic: 49388 Message: 49397

On 07/24/2014 09:24 PM, James Scribner swpthg@... wrote:

> get the SWR closer to flat at the frequency area you are trying to work,

And here we have one of the other things about antennae that seems to be a forgotten bit of lore. SWR is NOT the be-all and end-all of antenna tuning.

Yes, resonant length and impedance matching are important, I will NEVER be accused of saying otherwise. But more important for actually getting the antenna to do what you want it to do is understanding things like RADIATION ANGLE and SIDE-LOBE PROPAGATION. Height above ground is extremely important for bog-standard center-fed dipoles and changing the radiation angle of the signal.

You may be getting a coupling and impedance match of 1.1 to 1 as far as the SWR is concerned, but at twenty meters SSB, and only an average of 20 or so feet off the ground, you're getting a radiation angle of about 85 degrees, or just about STRAIGHT UP.

The signal, IF it bounces off of the ionosphere at all (instead of punching right through and being lost in space, headed for Beta Hydrae or something), at that angle will be reflected almost right back into your back yard.

Anything left over is either eaten by the earth ground, or lost in a side lobe which also doesn't get much further than the next block over, and which is headed in the direction a quarter-turn from where you hope to be sending anyway.

You want a LOW angle to reach for those far-away stations. Otherwise, if you want to get past the neighbour's fence posts, you're stuck waiting for a rare phenomenon like an ionic duct to form, and that is sheer luck and nothing you can count on.

SWR is only ONE piece of the antenna puzzle. And the smallest one at that, for my tuppence.

--
Wes Will
SysAdmin
N9KDY

49398. New to the Group.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-25 13:23:42 UTC
From: peter@...
Topic: 49398 Message: 49398

Hi All,

new to the group and thought I would pop bye and say hello.

I currently own a TS-530SP and a TS-830S which arrived this morning as a second user purchase. The TS-530SP was my first rig when getting my A class liec back in 1982. I have a number of Kenwood radios including 2 x TS-930s a TS-570S and a TS-590S.

One minor problem I have with the TS-830S is that while it tunes up fine on the CW-W and CW-N positions I cannot get the unit to dip or peak in the tune position. In the tune position I can switch to ALC and peak the Drive with no problem and the bias sets to 60 mA with no problem but in Tune I get nothing on Ip or RF on the meter. The rig works fine once tuned in the CW mode and I get a good 100 watts out on CW and SSB.

Any one any idea's not sure if it is in the PSU on the 100 volt rail in tune as yet and the circuit diagram takes a little following around those points as it is so Small.

Thanks,

Peter G4NTN

49399. Re: [TS-520_820_530_830] New to the Group.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-25 13:48:52 UTC
From: Mike W5RKL
Topic: 49398 Message: 49399

Peter,

You said the following:

"/*One minor problem I have with the TS-830S is that while it tunes up fine on the CW-W and CW-N positions I cannot get the unit to dip or peak in the tune position. In the tune position I can switch to ALC and peak the Drive with no problem and the bias sets to 60 mA with no problem but in Tune I get nothing on Ip or RF on the meter. The rig works fine once tuned in the CW mode and I get a good 100 watts out on CW and SSB.*/"

I recommend you check resistors R15 and R16, both are 56K 1/2 watt, that are on the TS-830 Rectifier Unit board. These resistors are used in TUNE mode to reduce the 6146 final tube screen voltage. If their values change significantly, you can experience the symptoms, in TUNE mode, you are experiencing. If one or both of the resistors are found to have changed resistance by a significant value, replace both resistors with new 56K 1/2 watt resistors.

Do you have the operator and service manuals for the TS-830? If not you can download them, including a TS-830 "high resolution" schematic on my website:

www.w5rkl.com/manuals-and-documents/

73
Mike W5RKL

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http://www.avast.com

49400. Re: New to the Group.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-25 13:51:41 UTC
From: Bob
Topic: 49398 Message: 49400

Welcome Peter. This is a great group, and very active as well.

One thing that will greatly help the really experienced people here - if you can list your currently available test equipment, and your level of expertise troubleshooting these fine rigs. There is available a larger and easier to read schematic; take a look in this group's archives. If not, I'm sure someone will provide the WEB address for it.

Good luck with it.

Bob / WA2JAJ

49401. Switches

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-25 15:10:40 UTC
From: pkmaint@...
Topic: 49401 Message: 49401

Hello All
I am looking for replacement switch actuators for my ts-520se
These are the part you grab to switch heater vox etc mine have all fell apart and I need atleast 3 of them
I could use 4 but I was able to Glue one back together
Thanks
David KR4OW

49402. Re: Switches

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-25 15:14:10 UTC
From: w5rkl@...
Topic: 49401 Message: 49402

David,

Check with Bob Mansker, KE5FTF (ke5ftf@mail.com), he may have some of those switch paddles.

73
Mike W5RKL

49403. Re: [TS-520_820_530_830] Re: Switches

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-25 16:14:25 UTC
From: Ron
Topic: 49401 Message: 49403

U can also find on ebay

Ron KK4PWF

On Jul 25, 2014, at 10:14 AM, "w5rkl@yahoo.com [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
> David,
>
> Check with Bob Mansker, KE5FTF (ke5ftf@...), he may have some of those switch paddles.
>
> 73
> Mike W5RKL
>
>

49404. Re: Switches

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-25 16:37:11 UTC
From: wagstw46@...
Topic: 49401 Message: 49404

Make sure you are not buying a JB Weld repaired paddle unless that is OK with you. Lots cheaper than buying new paddles.

John Krause KF7QGU was advertising new replacement units here and on ebay and I bought a couple of sets and they were perfect fit. I dont remember his email address.

Terry K9TW

49405. Re: [TS-520_820_530_830] Re: Is it ever ok to turn up the CAR in midst conversation?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-25 15:40:46 UTC
From: Mark PWK
Topic: 49388 Message: 49405

Hi Terry.
That's an interesting thought indeed. I attended my local club's informal meeting last night and learnt to cut, strip and solder my first PL-259 to LM-400 line. That's how new I am. It was an educational session, and like many of the other respondents to this thread, the main consensus was that the antenna just wasn't doing it for DX. Anyways, I put up an Alpha-Delta DX-CC last night. Its set up as an inverted V, with the centre about 30 feet up. It's the highest I can go at the moment, until I figure out how to trim my trees myself. Local tree trimmers want $600 for the job.

The wires are either touching or very close to leaves and branches. Still, I managed to hear some loud booming conversations on 40, as well as 80 metres. I made one contact, in Lithuania on 20 metres. Pretty happy with myself, as I spoke in a totally normal voice, keeping my eye on the ALC to make sure it didn't go over the scale.

Hopefully with the new antenna, and once I've trimmed the trees to allow for me to pull the apex higher, I might get better DX.

The Kenwood is great. The internal speaker is great. maybe a tad loud. If I use the RIT feature, I can tune right into conversations very well. However, the manual says to not leave it in RIT. So I've switched if off to transmit.

73,
Mark VA7PWK
TS-520, MFJ 969 Versa Deluxe Tuner, Home-brewed Wire Dipole Antenna, 20 m only.

this post edited as it contained already posted material. 73 Joe wb7uqu

49406. Re: New to the Group.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-25 16:53:15 UTC
From: peter@...
Topic: 49398 Message: 49406

Thanks Mike,

I found your site after a browse on Google. The High res. is a great help and I narrowed it down o the same area. Just need time to get inside and have a look now. I have down loaded the manuals and printed them out thanks. Worked a few stations already on the 830S and had some nice audio reports. Now I need to start looking or a VFO-230 which would complete the line up.
Thanks,

Peter G4NTN

49407. Re: New to the Group.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-25 16:55:59 UTC
From: peter@...
Topic: 49398 Message: 49407

Hi Bob,

Thanks for the reply, Hope to be a long time member now I have found the group. I do have a full test set up with Sig. Gen and 300 Meg Tektronix scope etc. so hope to be fault finding as soon as I get thetime. In the mean time I am just reducing the carrier level to tune up.

Thanks,

73 Peter G4NTN

49408. Re: [TS-520_820_530_830] Re: New to the Group.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-25 18:40:51 UTC
From: John Davidson
Topic: 49398 Message: 49408

Peter I copied the part of the schematic I was interested in, magnified X2, on my home copier/printer and it was easier to work with.

My radio is Ham Radio...CW is Real Radio
73, John...K8JD

On Friday, July 25, 2014 1:18 PM, "peter@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Hi Bob,

Thanks for the reply, Hope to be a long time member now I have found the group. I do have a full test set up with Sig. Gen and 300 Meg Tektronix scope etc. so hope to be fault finding as soon as I get thetime. In the mean time I am just reducing the carrier level to tune up.

Thanks,

73 Peter G4NTN

49409. RE: [TS-520_820_530_830] Re: New to the Group.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-25 18:50:24 UTC
From: Gary Desler
Topic: 49398 Message: 49409

Does a blown up print for KW 520 exist?

Thanks

Gary

AA7YO

I thank my lucky stars, to be livin here today. ‘ Cause the flag still stands for freedom, and they can’t take that away.

Lee Greenwood

From: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com]
Sent: Friday, July 25, 2014 11:41 AM
To: TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830] Re: New to the Group.

Peter I copied the part of the schematic I was interested in, magnified X2, on my home copier/printer and it was easier to work with.

My radio is Ham Radio...CW is Real Radio
73, John...K8JD

On Friday, July 25, 2014 1:18 PM, "peter@... [TS-520_820_530_830] <mailto:peter@...%20[TS-520_820_530_830]> " <TS-520_820_530_830@yahoogroups.com> wrote:

Hi Bob,

Thanks for the reply, Hope to be a long time member now I have found the group. I do have a full test set up with Sig. Gen and 300 Meg Tektronix scope etc. so hope to be fault finding as soon as I get thetime. In the mean time I am just reducing the carrier level to tune up.

Thanks,

73 Peter G4NTN

49410. Re: [TS-520_820_530_830] Re: New to the Group.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-25 19:22:53 UTC
From: Joseph Stiles
Topic: 49398 Message: 49410

Gary,

Yes and no. Ken Kemski (k4eaa) has large format "level diagrams" for the 520 series. These are most useful for troubleshooting. You can have the schematic scanned and enlarged at most major print shops....Office Max..FedEx Office...and others...$10-20 bux depending on size and detail.

73 Joe
WB7UQU

On Friday, July 25, 2014 12:13 PM, "Gary Desler gdesler@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Does a blown up print for KW 520 exist?
>
>Thanks
>Gary
>AA7YO
>I thank my lucky stars, to be livin here today. ‘ Cause the flag still stands for freedom,
>and they can’t take that away.
>
>Lee Greenwood
>
>From:TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com]
>Sent: Friday, July 25, 2014 11:41 AM
>To: TS-520_820_530_830@yahoogroups.com
>Subject: Re: [TS-520_820_530_830] Re: New to the Group.
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>On Friday, July 25, 2014 1:18 PM, "peter@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:
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a full test set up with Sig. Gen and 300 Meg Tektronix scope etc. so hope to be fault finding as soon as I get thetime. In the mean time I am just reducing the carrier level to tune up.
>
>Thanks,
>
>73 Peter G4NTN
>
>
>
>

49411. New Member of the Group

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-25 18:01:42 UTC
From: g_dub54@...
Topic: 49411 Message: 49411

Hello all. I am Gary, WS5J Located just South West of Fort Worth, Tx. I was lucky enough to find a real nice TS-830S in the factory box and loaded with every filter slot full for an excellent price at the last Fort Worth Ham Fest. Inside the box I also found a perfect condition MC-50 mic that had been disassembled and fit inside the box. This radio had not been powered up in close to 30 years, so to be on the side of caution I replaced the HV Caps and as the relays were a little "iffy" I replaced them with some solid state relays. It has been working perfectly and I really do enjoy playing with it. My main station is a Yeasu FT-2000 with the DMU-2000 and I am using both the MD-200 microphone and the Heil ProSet Plus head set. With a nice home brew amp, I am putting 1 KW to my antenna system which features a 4 element 6 band cubical quad at 80 feet high also 100% home brewed.. Hope to work you all on the bands someday. 73 - Gary Woods WS5J

49412. Re: [TS-520_820_530_830] Re: New to the Group.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-25 20:27:23 UTC
From: Joseph Stiles
Topic: 49398 Message: 49412

Gary,

I should also add that Ken Kemski's(k4eaa) diagrams are FREE to download...and IF you have a good quality original schematic..it can be scanned and enlarged greatly to make it easier on the ol' peepers by the aforementioned stores

73 Joe
WB7UQU

On Friday, July 25, 2014 12:25 PM, "Joseph Stiles stilesjoseph@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Gary,
>
>
> Yes and no. Ken Kemski (k4eaa) has large format "level diagrams" for the 520 series. These are most useful for troubleshooting. You can have the schematic scanned and enlarged at most major print shops....Office Max..FedEx Office...and others...$10-20 bux depending on size and detail.
>
>73 Joe
>WB7UQU
>
>
>
>On Friday, July 25, 2014 12:13 PM, "Gary Desler gdesler@me.com [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:
>
>
>>
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>>
>>Does a blown up print for KW 520 exist?
>>
>>Thanks
>>Gary
>>AA7YO
>>I thank my lucky stars, to be livin here today. ‘ Cause the flag still stands for freedom,
>>and they can’t take that away.
>>
>>Lee Greenwood
>>

>>From:TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com]
>>Sent: Friday, July 25, 2014 11:41 AM
>>To: TS-520_820_530_830@yahoogroups.com
>>Subject: Re: [TS-520_820_530_830] Re: New to the Group.
>>
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>>Peter I copied the part of the schematic I was interested in, magnified X2, on my home copier/printer and it was easier to work with.
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>>My radio is Ham Radio...CW is Real Radio
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>>On Friday, July 25, 2014 1:18 PM, "peter@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:
>>
>>
>>Hi Bob,
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>>Thanks for the reply, Hope to be a long time member now I have found the group. I do have a full test set up with Sig. Gen and 300 Meg Tektronix scope etc. so hope to be fault finding as soon as I get thetime. In the mean time I am just reducing the carrier level to tune up.
>>
>>Thanks,
>>
>>73 Peter G4NTN
>>
>>
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>
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>

49413. Re: [TS-520_820_530_830] New Member of the Group

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-25 20:40:22 UTC
From: Joseph Stiles
Topic: 49411 Message: 49413

Gary,

Welcome aboard. Finding an 830S, full filtered, with original box & an MC-50, was quite a score. Hope the XYL appreciates it....hihi.

You may want to partake in the Kenwood Hybrid Net. You can go to: wb4hfn "dot com" for net times and freqs.

Also, you may want to go to the "home page" of this group and look thorough the "files" section." Lots of good info

73 Joe
WB7UQU
Kenwood TS-520_820_530_830 Yahoo group Co-owner

On Friday, July 25, 2014 12:27 PM, "g_dub54@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Hello all. I am Gary, WS5J Located just South West of Fort Worth, Tx. I was lucky enough to find a real nice TS-830S in the factory box and loaded with every filter slot full for an excellent price at the last Fort Worth Ham Fest. Inside the box I also found a perfect condition MC-50 mic that had been disassembled and fit inside the box. This radio had not been powered up in close to 30 years, so to be on the side of caution I replaced the HV Caps and as the relays were a little "iffy" I replaced them with some solid state relays. It has been working perfectly and I really do enjoy playing with it. My main station is a Yeasu FT-2000 with the DMU-2000 and I am using both the MD-200 microphone and the Heil ProSet Plus head set. With a nice home brew amp, I am putting 1 KW to my antenna system which features a 4 element 6 band cubical quad at 80 feet high also 100% home brewed.. Hope to work you all on the bands someday. 73 - Gary Woods WS5J
>
>
>

49414. Re: New to the Group.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-25 21:11:26 UTC
From: paw_paw44036
Topic: 49398 Message: 49414

Mine did the samething and rebuilt the rectifier board as most all the resitors were way high in value. Replaced them all with film. Works great now. Bill
wd8osj

Sent via the Samsung GALAXY S®4, an AT&T 4G LTE smartphone

49415. Re: [TS-520_820_530_830] Re: Switches

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-26 04:22:04 UTC
From: John Krause
Topic: 49401 Message: 49415

Hello everyone,

I'm the guy with the new switch handles on eBay, but had taken the listing offline last May.

I am restocked and have reposted the eBay listing for sets of five handles, your choice of colors - usually all five black, or four black plus one gray.

USPS Priority Mail shipping is free to you. Mention this group and I'll reduce the cost by $5 per set of five handles. You should be able to search by 'Kenwood Switch Handles' and you'll find the listing.

For those interested in single units - either gray or black - I should have that listing updated and reposted shortly.

Many thanks to the Group!

73's

John KF7QGU

49416. Re: Switches

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-26 05:15:44 UTC
From: John Krause
Topic: 49401 Message: 49416

Terry,

Thanks for the positive review on these switch handles.

I've gotten listings back up on EBAY for both sets of five and individual handles in both gray and black.

You can find the listings by just searching on Kenwood Switch Handles.

Best Regards,

John KF7QGU

49417. Re: Switches

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-26 13:42:40 UTC
From: ke5ftf@...
Topic: 49401 Message: 49417

In my defense I do use JB-Weld on the paddles that I sell BUT only in the small keeper tabs that tend to crack... If a paddle has a keeper tab broken off I toss it...
Bob
ke5ftf
****

---In TS-520_820_530_830@yahoogroups.com, <wagstw46@...> wrote :

Make sure you are not buying a JB Weld repaired paddle unless that is OK with you. Lots cheaper than buying new paddles.

John Krause KF7QGU was advertising new replacement units here and on ebay and I bought a couple of sets and they were perfect fit. I dont remember his email address.

Terry K9TW

49418. Re: Switches

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-26 14:37:09 UTC
From: wagstw46@...
Topic: 49401 Message: 49418

Bob

No defense needed. I wasnt pointing a finger at you.

I simply said make sure not buying a JB Weld repaired paddle unless that is OK with you and in my 2nd sentence I state they are a lot cheaper than buying NOS paddles.

I see nothing wrong with strengthening a paddle that has a crack so crack doesnt propagate, but I would not want to buy one that had broken off tab glued back in place. You have made it clear you dont do that or sell that kind of paddle. Didnt mean to infer that you did. In fact wasnt thinking of you. I have had more than one rig on the bench with epoxy repaired paddles and I assume the owner did it?

Just trying to make sure that our member who buy from any source are informed buyers. Not picking on you. I have had nothing but superior service from you and regularly steer people to you. We are all fortunate that you provide this service to us.

Terry K9TW

49419. Re: [TS-520_820_530_830] New Member of the Group

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-26 15:09:55 UTC
From: James Scribner
Topic: 49411 Message: 49419

Gary,
Welcome also to the Group. As mentioned Kenwood Hybrid is a great net and also there is a 'Boat Anchor Net' here in Texas on Wed. nites at 7:30cst you might enjoy. Great bunch enjoying great tube radios. Any brand. Be looking for you.
73
W5SWM-Jim
TS-820,820S,820D
Drake TR-4

49420. Re: New to the Group.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-26 14:39:38 UTC
From: peter@...
Topic: 49398 Message: 49420

Hi All,

Just a note to say thanks for the help. I have replaced the two %^K ohm resistors, (one was open circuit the other measured 78K ohm). All back together and working great. Another Nice Kenwood to add to the collection .

Thanks,

Peter G4NTN

49421. Re: New to the Group.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-26 19:13:01 UTC
From: w5rkl@...
Topic: 49398 Message: 49421

Peter,

I have a video on my website, see link below, that talks about a similar series circuit, how to calculate current, and the voltage drop across the first resistor in the series string (9.9K) then subtract the voltage drop from the source voltage to calculate the voltage at the junction of the 9.9K and 21.8K resistor, same way as the R15 and R16 series circuit works. This video can also be applied to the 520 and 820 HV Unit series circuit, R5 and R6, both 56K 1/2 watt. That circuit works the same way as the video does.

http://w5rkl.com/wp-content/uploads/2014/03/Using-basic-test-equipment-to-measure-voltage-and-current.wmv http://w5rkl.com/wp-content/uploads/2014/03/Using-basic-test-equipment-to-measure-voltage-and-current.wmv

73
Mike W5RKL

49422. Source for old electronic magazines

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-27 03:33:54 UTC
From: W5RKL
Topic: 49422 Message: 49422

Here's a link to some old electronic magazines such as Popular
Electronics, Electronics Illustrated, and others.

http://www.americanradiohistory.com/index.htm

From what I can see all magazines can be downloaded free.

73
Mike W5RKL

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

49423. Re: Source for old electronic magazines

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-27 15:45:47 UTC
From: w5rkl@...
Topic: 49422 Message: 49423

I have created a page on my website and uploaded a few Elementary Electronic magazine issues that contain several excellent articles on Basic Electronics for those members who want to learn.

Electronic Magazines | W5RKL http://w5rkl.com/old-electronic-magazines/

Electronic Magazines | W5RKL http://w5rkl.com/old-electronic-magazines/ Elementary Electronics Spring 1965 Spring Summer 1969

View on w5rkl.com http://w5rkl.com/old-electronic-magazines/
Preview by Yahoo

I intend on adding additional magazines that contain basic electronic articles for those who are interested in learning.

There have been a number of members who have indicated they want to learn. If you still want to learn you will have to devote some time to reading articles on theory. I mean no disrespect but if those who have stated they want to learn BUT can't or won't devote time to study, at least an hour a day, then don't expect to learn anything. If you can only devote a couple hours on weekends, that's better than nothing. Don't expect to learn it overnight, over a weekend, or even after 6 months or more.

73
Mike W5RKL

49424. Re: No ALC Indication and only 3W output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-28 00:22:46 UTC
From: peterlake2003@...
Topic: 49365 Message: 49424

Thanks Terry Measured as you said got correct voltages up to the driver tube, but low level out of it, If i could ask a question (I am not to good with these old valve sets)
Should I see a DC level at pin 2 of the driver, some people have posted a level at this point but my radio has 0 volts here, also my 210V line is more like 250v when in receive (Not tried in TX yet)
Thanks for your help
Peter
G8ZZL

49425. Re: Switches

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-28 08:46:18 UTC
From: beeson.neil@...
Topic: 49401 Message: 49425

I've got some paddles coming from John and his service is fantastic. Neil VK6NSB

49426. Re: No ALC Indication and only 3W output

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-28 12:33:18 UTC
From: wagstw46@...
Topic: 49365 Message: 49426

Peter

I assume you are reporting that you have correct RF drive voltage level at the output of the TX Mixer at MD (approx 2 rms rf volts) and have very low RF drive voltage at the Plate of the Driver tube at DP or DRV. Is that what you are saying?

Pin 2 of the Driver tube is the Control Grid of the tube. This pin sees Cut-off bias (-37vdc) in receive mode and Operating bias (+ 0.30vdc) in transmit mode. If the bias isnt switching from Cut off to Operating the tube wont turn on. You can also prove that by measuring the cathode voltage in Tx mode. It should switch from very low value in Rx to approx 4.0vdc in Tx mode. Need cathode current to get IR drop across the resistor string in the cathode circuit.

I dont know about your ability to take DC voltage readings. Some folks really struggle with this key task and commonly report flawed readings. No offense intended, but in order to help anyone we must have factual input. You have to be familiar with your DMM or what ever voltmeter you are using and how to measure low values of dc voltage. I would repeat your measurements at Pin 2 to be 100% certain that Pin 2 doesnt have a small positive dc voltage in Tx mode.

Also, why didnt you measure Driver tube screen grid voltage in Tx mode when you were there measuring it in Rx mode? That was the time. If worried just flip the SG switch off and then Flip to Send and should see that 250vdc drop to around 200vdc. Very likely that your screen grid voltage is ok. Common failure is in the divider resistors that supply it and if you have 250vdc in Rx mode most likely will have screen grid voltage in Tx mode.

If you do not have small positive voltage on the Driver tube control grid Pin 2 come back and we will have to talk about Q6 bias switch circuit.

Perhaps first step would be cleaning the contacts of the Aux Relay (located under the Vox board) before trouble shooting Q6 circuit.

Terry K9TW.

49427. LMO and VFO instability

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-28 14:26:56 UTC
From: Mike W5RKL
Topic: 49427 Message: 49427

I made and uploaded a video that covers the Heathkit TRW LMO (VFO) inside view. The purpose of the video is to show the inside view, the multiple tab washers on the LMO tuning shaft and how to clean them when they stick (sticky tab washer prevent tuning the LMO from one end of the dial to the other, only partial tuning is achieved). The video also shows where "instability" in LMO tuning can occur when dirt/corrosion collects at the LMO variable capacitor shaft and frame connection.

Although the video is about the Heathkit TRW LMO (VFO), the same variable capacitor shaft to frame connection exists in the KW Hybrid internal and external analog VFOs and the same cleaning process is required to fix instability tuning of the KW hybrid VFO.

The video is found on my website

www.w5rkl.com

on the "Electronic Video" page. Click on the video page link then scroll down to the bottom of the video page and click on "TRW LMO Inside View" link.

"LMO" stands for "Linear Master Oscillator" which is the "VFO" built by TRW and used in the Heathkit SB-100 and SB-101 transceivers, the SB-300 and SB-301 receivers, and the SB-400 and SB-401 transmitters. The LMO tunes the same 5.500Mhz to 5.000Mhz frequency ranges as the VFO in the TS-520 and TS-820 does. The HW-100, HW-101, SB-100, SB-101, and SB-102 are very close to the TS-520 operation. The same basic conversion and mixing process takes place in the Heathkit transceivers as it does in the Kenwood TS-520 transceiver.

73
Mike W5RKL

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http://www.avast.com

49428. Re: *** SPAM ***[TS-520_820_530_830] LMO and VFO instability

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-28 14:35:01 UTC
From: Mike W5RKL
Topic: 49427 Message: 49428

You do not have to remove the VFO in the Kenwood Hybrids to fix VFO tuning instability due to dirty VFO capacitor to frame fork connection. When I say you have to remove the LMO to fix this problem, that applies ONLY to the Heathkit LMO, NOT the Kenwood Hybrid VFO! I should have said that in my initial posting.

73
Mike W5RKL

On 7/28/2014 9:26 AM, Mike W5RKL w5rkl@... [TS-520_820_530_830] wrote:
>
> I made and uploaded a video that covers the Heathkit TRW LMO (VFO)
> inside view. The purpose of the video is to show the inside view, the
> multiple tab washers on the LMO tuning shaft and how to clean them
> when they stick (sticky tab washer prevent tuning the LMO from one end
> of the dial to the other, only partial tuning is achieved). The video
> also shows where "instability" in LMO tuning can occur when
> dirt/corrosion collects at the LMO variable capacitor shaft and frame
> connection.
>
> Although the video is about the Heathkit TRW LMO (VFO), the same
> variable capacitor shaft to frame connection exists in the KW Hybrid
> internal and external analog VFOs and the same cleaning process is
> required to fix instability tuning of the KW hybrid VFO.
>
> The video is found on my website
>
> www.w5rkl.com
>
> on the "Electronic Video" page. Click on the video page link then
> scroll down to the bottom of the video page and click on "TRW LMO
> Inside View" link.
>
> "LMO" stands for "Linear Master Oscillator" which is the "VFO" built
> by TRW and used in the Heathkit SB-100 and SB-101 transceivers, the
> SB-300 and SB-301 receivers, and the SB-400 and SB-401 transmitters.
> The LMO tunes the same 5.500Mhz to 5.000Mhz frequency ranges as the
> VFO in the TS-520 and TS-820 does. The HW-100, HW-101, SB-100, SB-101,
> and SB-102 are very close to the TS-520 operation. The same basic
> conversion and mixing process takes place in the Heathkit transceivers
> as it does in the Kenwood TS-520 transceiver.
>
> 73
> Mike W5RKL
>

>

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http://www.avast.com

49429. Re: *** SPAM ***[TS-520_820_530_830] LMO and VFO instability

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-28 15:07:49 UTC
From: wagstw46@...
Topic: 49427 Message: 49429

Hi Mike:

As another source of a very good picture of the TS820/TS520 VFO air variable rotor shaft wiper contact can go to Gordon N6WK website and search under Kenwood Hybrid files under TS-820 VFO Repair and scan thru the pictures and there is a very good shot of the rectangular side cover pivoted open on one of the two retaining screws and a nice close up view of the "forked wiper contact" and the rotor travel stop screw as well.

This is the same air variable capacitor (very high quality unit) used in the TS520, TS520S VFOs. The air variable on the TS530 and TS830 is much smaller and the wiper contact is no where near as substantial.

Sure glad someone put Gordons stuff back on line.

Terry K9TW

49430. Re: *** SPAM ***[TS-520_820_530_830] LMO and VFO instability

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-28 18:46:35 UTC
From: W5RKL
Topic: 49427 Message: 49430

Hi Terry,

I didn't know there were pictures of the KW hybrid VFOs on Gordon, N6WK website. I knew someone had taken over Gordon's website but didn't really look at it so one learns something new everyday.

I have to put the VFO in my KW R599 receiver, it "warbles" when tapping on the cabinet. Other than that the receiver works great.

A ham on the Yeahoo Heathkit group had an SB-401 transmitter LMO physical tuning problem, the LMO would only tune about 150Khz, some of the tab washers were stuck and would not rotate freely. I told him the LMO should be removed from the transmitter to fix it but he wanted to know if it's possible to leave the LMO in the transmitter to fix the problem. I said he could do but it would be a lot more difficult fixing this problem by leaving the LMO in the transmitter so I made a video showing what the problem was and how to fix it properly. Since I had the LMO front and bottom panel, an "L" shape panel, already removed I figured why not show where the "Fork to shaft" connection is on a variable capacitor, something that some members may not understand or have ever seen before.

Mike W5RKL

On 7/28/2014 10:07 AM, wagstw46@... [TS-520_820_530_830] wrote:
>
> Hi Mike:
>
>
> As another source of a very good picture of the TS820/TS520 VFO air
> variable rotor shaft wiper contact can go to Gordon N6WK website and
> search under Kenwood Hybrid files under TS-820 VFO Repair and scan
> thru the pictures and there is a very good shot of the rectangular
> side cover pivoted open on one of the two retaining screws and a nice
> close up view of the "forked wiper contact" and the rotor travel stop
> screw as well.
>
> This is the same air variable capacitor (very high quality unit) used
> in the TS520, TS520S VFOs. The air variable on the TS530 and TS830 is
> much smaller and the wiper contact is no where near as substantial.
>
> Sure glad someone put Gordons stuff back on line.
>
> Terry K9TW
>

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49431. Re: [TS-520_820_530_830] Is it ever ok to turn up the CAR in midst conversation?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-28 18:45:37 UTC
From: Mark PWK
Topic: 49388 Message: 49431

Hi Jim,

I heard some guys from Texas just last night. They were ragchewing and I didn't want to bother them. I've even heard them as far as Florida. Last night, I heard a guy from Slovenia, Poland and Japan. They couldn't hear me though. I'm pretty sure we'll meet on the air one day Jim.

Just so you know, I put up an Alpha Delta DX-CC antenna since I last posted to the group. All the stuff I heard was using that. Last night though, the bands seems to be dead, with very few conversations, but lots of noise. I did hear some very very strong signals from Texas though, on 40 meters. There was one group, that near the beginning of the band that were talking about cars. One fella was so loud, that when he spoke I nearly spilled the wine I was drinking! I had to keep adjusting the volume just for whenever that guy spoke.

So right now, all is good in my shack. I just think conditions are not too good now.

Hope to talk to you soon, cheers!

73,
Mark VA7PWK
TS-520, MFJ 969 Versa Deluxe Tuner, Home-brewed Wire Dipole Antenna, 20 m only.

this post edited as it contained already posted material. 73 Joe wb7uqu

49432. 830s was working fine now no ALC, wiggle driver RX almost dies

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-28 21:16:19 UTC
From: n612dw@...
Topic: 49432 Message: 49432

my TS830s was working fine, but then all of a sudden no ALC indications, and when i wiggle the driver tube, RX goes almost dead.

no ALC on xmit on any band all of a sudden. Bandswitch cleaned already not likely there..

pulled out the driver tube, required super-human strength, and found there is some foreign substance that actually looks like super glue in a couple of pins. Tried to clean/deoxit etc. still have to wiggle tube to wake up receiver (this may be separate non-associated issue?).

want to remove the board, and replace the socket. How/what is the best way to remove/replace the RF board? looks like a royal PITA. person i bought it from said it had RY1 replaced by KW (but i have k4eaa's replacement if needed).

hopefully one of these suckers works -
http://angela.com/ninepinnovaltubesocketsandaccessories.aspx
http://angela.com/ninepinnovaltubesocketsandaccessories.aspx

what is the most common failure for any ALC indication - best place to look first?

i have a fair complement of tools (Tek oscope, HP sig gens, counters, etc).

-bob, w9zv

49433. Re: [TS-520_820_530_830] 830s was working fine now no ALC, wiggle driver RX almost dies

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-28 22:56:51 UTC
From: Joseph Stiles
Topic: 49432 Message: 49433

Bob,

Removal of the 830S RF board is easier than the 820!!

You will need: soldering gun/pencil, phillips screwdriver, needle nose pliers, long allen wrench(to fit the set screws on bandswitch coupler).

With rig OFF and unplugged...remove top cover, remove digital display board, remove driver tube. Remove final amp cover...check for voltage on plate choke...before you go any further!!!
No volts??? ..remove front tube. Make sure that your band switch ...etc... keeps proper orientation...turn bandswitch to "1.5"...loosen the front most set screw of the coupler....turn bandswitch to "10"...(10Mhz...not 10meters.) There may be small spring wires on the shaft...remove...withdraw shaft..pay attention to orientation of everything! Remove all connectors and ...don't forget the VCO cable...from the RF board...unsolder the 2 white wires...going to the final amp cage. Loosen the collar and the coupler to the "Drive" control shaft...right behind the upper right front of the chassis. Remove the 7 phillips screws holding the RF board in place. I find it easier to now turn rig upside down..to get to the blue wire going to the "drive" post on the final amp board. I remove it from the RF board. The board should now come out very easily...if not...you forgot something. Usually takes about 30 minutes. Just go slow and document the position of the bandswitch wafers...and the shaft orientation!

Be very careful when removing the "molex" connectors! I spritz them with a bit of DeoxIT before I try and remove them...has helped me numerous times. You can induce faults that will really make your day!! Get some very good magnification and bright light...inspect board.

I doubt the driver tube issue is causing the RX issue.

Is your lack of ALC in "tune mode" or during regular operation? First suspect is a poor/failing or failed driver tube...or socket/soldering to board.

You can go to this groups "home page"...click on "conversations" by the left lower corner of the station picture....you'll be taken to another screen...in the box at the top...enter your criteria...say for example: "TS-830S no ALC in transmit." This will give you LOTS of info to go through...the "Files" section has lots of good stuff too!

73 Joe
WB7UQU

On Monday, July 28, 2014 2:53 PM, "n612dw@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>

>
>my TS830s was working fine, but then all of a sudden no ALC indications, and when i wiggle the driver tube, RX goes almost dead.
>
>
>no ALC on xmit on any band all of a sudden. Bandswitch cleaned already not likely there..
>
>
>pulled out the driver tube, required super-human strength, and found there is some foreign substance that actually looks like super glue in a couple of pins. Tried to clean/deoxit etc. still have to wiggle tube to wake up receiver (this may be separate non-associated issue?).
>
>
>want to remove the board, and replace the socket. How/what is the best way to remove/replace the RF board? looks like a royal PITA. person i bought it from said it had RY1 replaced by KW (but i have k4eaa's replacement if needed).
>
>
>hopefully one of these suckers works
- http://angela.com/ninepinnovaltubesocketsandaccessories.aspx
>
>
>what is the most common failure for any ALC indication - best place to look first?
>
>
>i have a fair complement of tools (Tek oscope, HP sig gens, counters, etc).
>
>
>-bob, w9zv
>
>
>
>
>

49434. Re: *** SPAM ***[TS-520_820_530_830] LMO and VFO instability

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-28 23:33:35 UTC
From: wagstw46@...
Topic: 49427 Message: 49434

Mike:

Yes that was a good idea to take that opportunity to show folks what a wiper looks like.

I remember the LMO and how happy I was when I got my first one and had 1khz readout for the first time. I married up a SB-640 vfo with my HW-101. There was room on the face of the SB640 to add a centralab ceramic selector switch and I mounted a relay on the side of the PA cage and was good to go. I think I used dry transfer lettering for the switch and bought a heathkit knob and it looked like it belonged. Worked like a champ.

Of course all the various wipers in the different model Hybrids are slightly different. I clean the wipers on every air variable when I work on any Hybrid. I dont think some people realize there are 4 wipers on the 3-gang Plate Loading cap and I see them that are a nice green copper oxide coated. The VC-1, VC-2 and VC-3 Drive capacitor wipers are also usually corroded.

I was listening on 40 meters while working the other day and heard a guy tell the other fellow to put a screwdriver in and try to bend the wiper to give it more contact pressure. I had a vision of his RF bench with a ball peen hammer, pipe wrench, and vise-grips hanging there!

Terry K9TW

49435. RE: [TS-520_820_530_830] 830s was working fine now no ALC, wiggle driver RX almost dies

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-29 00:51:56 UTC
From: fpath fpath
Topic: 49432 Message: 49435

Bob,

When you have RF board out as described by Joe, have a good look under magnification and lighting, at all of the molex connector soldering joints and wafer switches foil tabs. If they are cracked then remove all solder, lightly sand and then resolder. Almost impossible to just reflow solder and get good connection. Dont over heat the foil tabs as they can lift easily

Based on your description, more than likely the socket tabs have poor soldering from factory.

You may want to consider giving your PA a blow out with compressed air and lube fan, it is highly recommended doing this yearly

Please report back on your findings as it does help some of the newer members

73s

Dave

VK5PDL

49436. Re: 830s was working fine now no ALC, wiggle driver RX almost dies

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-29 01:53:39 UTC
From: wagstw46@...
Topic: 49432 Message: 49436

Bob

Rather than pull the RF board you may want to access the driver tube socket tab soldering by removing the RF board access panel by folding over the AF board. This gives you access to the foil side of the board. You will be able to see if the tube socket tab soldering is cracked (pretty common due to repeated pushing and pulling of the Driver tube). Can re-solder the tube socket tabs from the bottom side. This may fix your loss of ALC indication and loss of receive.

The likely reason that you are losing receive when wiggling the Driver tube is due to losing the cut-off bias to Pin 2 of the Driver tube. When that happens tube will conduct and there will be cathode current. That current will cause IR drop across the cathode resistors. You can see from schematic study that there is a diode protection scheme that gets its forward bias from cathode resistor divider tap. When the Driver tube is turned on you dont want any transmit RF to enter the front end of the radio and damage Q1 RF amp. KW engineers designed the D2 protection diode circuit to shunt strong RF that appears at Gate 1 of Q1 to ground to protect the dual gate mosfet from its own transmit RF. Some folks think D2 is an ESD protection device and that is not correct. It takes Driver tube cathode current flow to forward bias D2.

If you turn the heaters off and wiggle the Driver tube do you still lose receive? If so, then my thought about loss of cutoff bias voltage at Pin 2 isnt valid.

Of course pulling the board allows you to inspect all the molex pin soldering.

Terry K9TW

49437. PS-511S Power supply

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-29 02:35:52 UTC
From: dlbowders@...
Topic: 49437 Message: 49437

Hello Group,
I need to replace a diode in the power supply for my TS-511S. It looks to have turned to powder and crumbled at the touch of my plastic adjustment tool. I may even have caused it to fail. I didn't think I touched that hard. The old no. is S-1.5-08. I can find no info on it. Does anyone own and maintain a TS-511S other than me? I could use some advice before I pick any. This is a 900 Vdc supply.
This supply has never been touched before. All original components.
Thanks in Advance,
73, Don K5HFG

49438. Flooded room TS-820 Handle up water to 1/3 up S-Meter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-28 23:51:30 UTC
From: scidoc@...
Topic: 49438 Message: 49438

Cleaned IF Board. No audio but hear sound increase to hiss with inceased audio gain. This suggested to me to look at output from ringer on IF
board. Anyone know what pins and what the voltages should be?

Also, any ideas about how to approach troubleshooting this rig. I have a
great deal of experience but am rusty. The scope is on signal generator
available, need expertise and patience.

ANY HELP APPRECIATED.

Thanks,

Arnie WB2ABM

49439. Re: [TS-520_820_530_830] PS-511S Power supply

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-29 03:30:17 UTC
From: W5RKL
Topic: 49437 Message: 49439

Hello Don,

If the diodes you are referring to are the 4 HV diodes in the PS-510 power supply, you can replace all 4 of them with 1N4007 diodes which quite often have been available at Radio Shack. If not then Mouse sells them.

Before you replace the diodes you need to check the supply thoroughly to ensure there are no other components that caused the diodes to disintegrate as you said. Diodes that crumble as you said they did indicate a high current demand was placed on the power supply. I also would check the fuse to ensure it's the correct current rated fuse. The only schematic I have of the power supply is a PS-510 schematic where the power transformer primary windings are 235/250VAC, no 120VAC primary windings. The fuse is rated at 8 amps at 235VAC. You also need to check the power transformer's HV windings for shorts to the core or if the transformer smells of burnt/overheated insulation.

You should also check the final amplifier for failed components that could result in a high current demand placed on the PS-510 HV supply. If an arc occurred in one or both of the final tubes between the plate and the beam forming element then that arc would be the same as grounding the HV supply output directly to the chassis resulting in high current to flow in the HV supply. Normally this would blow the fuse so you need to check the power supply fuse to ensure it's the correct rated fuse. I've seen 15 amp fuses be used in place of a 3/4 amp fuse. Needless to say the power transformer was toast when the supply filter capacitor shorted to ground.

73
Mike W5RKL

On 7/28/2014 9:35 PM, dlbowders@... [TS-520_820_530_830] wrote:
>
> Hello Group,
> I need to replace a diode in the power supply for my TS-511S. It looks
> to have turned to powder and crumbled at the touch of my plastic
> adjustment tool. I may even have caused it to fail. I didn't think I
> touched that hard. The old no. is S-1.5-08. I can find no info on it.
> Does anyone own and maintain a TS-511S other than me? I could use some
> advice before I pick any. This is a 900 Vdc supply.
> This supply has never been touched before. All original components.
> Thanks in Advance,
> 73, Don K5HFG
>
>

>

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49440. Re: [TS-520_820_530_830] Flooded room TS-820 Handle up water to 1/3 up S-Meter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-29 04:07:36 UTC
From: Wes Will
Topic: 49438 Message: 49440

On 07/28/2014 06:51 PM, scidoc@... [TS-520_820_530_830] wrote:

Could you pretty please DECODE that subject line? Something about a radio that was in a flooded room? Water in your S-meter?

Colour me confused.

Did the radio work at any point since you had it in your possession?

Did you clean the band switch and other switches in there? If there was anything to this water problem, there is going to be a lot of cleaning and corrosion removal required before this thing will work. If it was under water, even 1/3 of the way up the S-meter, whatever, I wouldn't plug it in at all until the cleaning was completed.

More information, please. What kind of tools do you have other than an oscilloscope and a signal generator? Do you have a frequency counter, a vacuum-tube voltmeter, and an RF-Probe to go with it? (You can make the probe for pocket change, or less if your junk box runs to some small-signal diodes, a resistor, and a small ceramic disc cap.)

The VTVM is not just for glitz or bragging rights. Those meters have around a 10 or 11 meg ohm input impedance, rather than the ONE meg ohm or less input impedance of the run of the mill digital or even FET multimeter most benches have on hand. This allows you to get much more accurate reading from circuits, because the meter doesn't load the circuit under test and change the readings.

Also, how rusty? Do you still remember how to handle yourself around B+ voltages? There's about 900 VDC waiting to eat you for lunch at the top of those final output tubes, and various other places inside that chassis. Do you have a 'zap stick' or 'chicken stick' to discharge the electrolytics in the finals power supply? (And you're not so rusty that you think throwing a big spark with just a bare wire and no resistance in line with it will make that cap safe, are you? The electrolyte CAN re-charge after a high-amperage discharge, which is why a chicken-stick has a resistor in the line and you leave it on there for a bit to allow things to gain a new and low-potential equilibrium.)

We truly do need more information, as well as some translation of that subject line. Also, do you have the schematics, service, and operator's manuals for your rig? They're all available for download, for free. Including some very high resolution ones that can be printed out "poster sized" and studied or marked up with ease. (My old eyes need those bigger drawings, else I can't make much of the circuits, too small to

see the details.)

Expertise there is in abundance on this list, and we try (most if not all of us anyway) to use plenty of patience. You've come to the right place if you're in need of help fixing your radio.

--
Wes Will
N9KDY

49441. Re: Flooded room TS-820 Handle up water to 1/3 up S-Meter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-29 12:28:35 UTC
From: tjb813@...
Topic: 49438 Message: 49441

Good cleaning of the circuit boards with 90% Isotropy Alcohol and a tooth brush.

There are manuals on-line for free.

Good Luck.

KD8CN

49442. Selling my R-599 / T-599 / S-599

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-29 13:15:43 UTC
From: popeyebob@...
Topic: 49442 Message: 49442

Selling my Kenwood twins. Complete with interconnecting cable and Shure 404c Mic.
99.9% functioning,
11 meter rock in transmitter top 10 meter position.
No "golden screwdriver" hacks, just replace rock and retune one coil.
I bought it this way. Replacement crystals are available from members of this group. 39.995
?
Full power with like new pair 6146w and new 12BY7, new 3SK22FET.
Pickup north of Rockford Il. No shipping.
Contact me off group .
73
Bob
NB9G

49443. Re: [TS-520_820_530_830] Flooded room TS-820 Handle up water to 1/3 up S-Meter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-29 14:44:31 UTC
From: Mike W5RKL
Topic: 49438 Message: 49443

The input impedance of a digital volt/multi meters (DVM/DMM) can be found in the meter's manual. I use 3 different makes of digital multi meters and they all have a "10 meg" input impedance in AC and DC ranges. The meter probe resistance must also be considered when can easily be 1 ohm of resistance.

A typical VTVM will have a "1 meg" input impedance in all AC voltage measuring settings and a "10 meg" input impedance in DC voltage measuring settings. The "11 meg" impedance is based on the addition of a "1 meg" probe that's used in all DC voltage setting. Adding the 1 meg probe resistance to the 10 meg input make the VTVM's DC input 11 meg. The typical VTVM probe is quite often a "universal" probe that contains a switch that removes the 1 meg resistor when measuring AC voltage but puts the 1 meg resistor back in the probe when measuring DC voltage. Unfortunately, not all VTVMs sold on eBay or elsewhere have the correct probe so the buyer must make them. I use thin diameter hollow plastic probes (RED for positive BLACK for negative) with a 1 meg resistor inside the RED probe. These hollow plastic probes are becoming harder to fine. I also change the typical "screw on" single conductor connector on the front panel of VTVMs to a "BNC" female socket, works much better.

One also must understand that using a DVM/DMM or VTVM when measuring voltages, will have an affect on the circuit the meter is connected to. For example, using a 11 meg ohm VTVM, even with the correct 1 meg probe, will drag down an AGC/ALC buss.

Any equipment that has been exposed to water, i.e., sitting in water in a basement or other location, for any length of time, should be thoroughly cleaned and set out to dry for at least a minimum of 2 days followed by a thorough visual inspection looking for any foreign matter that was missed and any damage that may have occurred, before even considering apply power!

Understanding and following standard safety precautions when working around any level of AC or DC voltage is a must for ALL hams and people working in the electrical industry! It's not the voltage that kills you, it's the CURRENT!! A DC voltage as low as 40VDC at 200ma can KILL you!! The link below contains discussions about electricity and how it affects YOU.

https://www.physics.ohio-state.edu/~p616/safety/fatal_current.html

Don't become complacent when working around electricity, there are plenty of people/hams who are now 6 feet under who for reasons unknown, became complacent when working around live AC and DC circuits!!

73
Mike W5RKL

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http://www.avast.com

49444. Re: PS-511S Power supply

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-29 16:54:32 UTC
From: dlbowders@...
Topic: 49437 Message: 49444

Mike,
Thanks for the reply. This rig is ancient and I knew at some point I would have to do something about the HV supply. I do not operate it very much but do occasionaly operate CW on 40 and 80. I began to notice some fluctuation in the output so I took a look in the final cage and found no problems. A few nites ago I noticed the output slowly fall back again so I got the manual out and looked at the trouble shooting section and it says to check the diodes.
I admit that I may have tugged on the one a bit too aggresively. It did seem to disintegrate rather easily. Anyway I have the PS511s schematic and will add the replacement diodes to the component list after I read their data sheet. I was not sure and thought I would ask for some advice. Between you and Terry I figured I would get some good info. This old girl sounds so mellow on SSB I like to just listen on 80 while I work at the bench. And the smell, it takes me back to better days. Remember those? By the way, I caught the filter caps just in time. After replacing them I poked around the bulge in the bottom and they caved in. I thought I could see some cracks under the magnifying glass and sure enough. How is that for luck? Not bad life for originals.
Best 73,
Don K5HFG

49445. Re: [TS-520_820_530_830] Re: PS-511S Power supply

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-29 17:38:09 UTC
From: Mike W5RKL
Topic: 49437 Message: 49445

You're welcome Don.

There are 1N5408 silicon diodes with a 1KV 3 amp rating out there but
for this application the 1N4007 1KV 1 amp silicon diode will work just fine.

I don't have the PS-511 supply schematic or manual and the TS-511 manual
I do have is light, difficult to read. If you have them in pdf format
can you send me copies of the power supply and TS-511 operator's manual
with schematics?

73
Mike W5RKL

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49446. Re: [TS-520_820_530_830] Flooded room TS-820 Handle up water to 1/3 up S-Meter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-29 18:26:14 UTC
From: wagstw46@...
Topic: 49438 Message: 49446

As Mike directs read the DMM manual specs. Remember that some DMMs input impedance is range dependent. You may think it is a 10 meg meter when it is not. It can be as low as 1 meg ohm on some ranges (especially the lower ranges) The Harbor Freight $9.99 DMM runs close to 900k input impedance and better for electrical work and not electronic work. Electricians need low Z meters to verify circuits are truly de-energized before they barehand touch.

If you dont have the manual couple of ways you can check the meter:

1. Try to measure the AGC bus and see what happens. A 2 meg meter will drive the S meter up scale and reduce the gain significantly. The 3.3vdc will measure around 1.3vdc and S-meter will read 10 over or higher.

2. Take the reading that you want to measure and then insert a 100k resistor in series with the plus lead and take the reading again and see if reading is significantly different. If it is the impedance of your meter is too low for what you are trying to measure. You can insert a 1 meg resistor in series and take the readings. Will be about 10% low but wont affect the circuit as much.

Easy to measure your meters input Z:
1. Use a constant current source like a fresh D cell battery
2. Measure the battery voltage with the DMM
3. Insert 20 meg pot in series with plus lead of meter and connect back across the battery. Adjust the pot for 1/2 of voltage that you measured in Step 2. If you dont have a 20 meg pot can use a combo of fixed resistors and a different pot.
4. Remove the pot after adjusting for 1/2 voltage and measure the resistance of the pot. This is the input Z of the meter on that range. Hopefully the resistance will read around 10 to 11 meg ohm.
5. Best to do this test on the meter range you intend to use to measure voltages in the rig.

Terry K9TW

49447. New to me TS-520SE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-29 16:26:08 UTC
From: Nate Bargmann
Topic: 49447 Message: 49447

Hi All.

While I am not entirely new to the Kenwood hybrids, having owned a TS-820S and TS-830S in the past, I have reentered the fray with the recent purchase of a TS-520SE. It is quite clean and the receiver works very well. However, it seems to have a bug in the transmit chain that causes it to not give any ALC indication when attempting to set the drive control that I'll need to chase down as I go through the basic alignment in the days ahead (it may be a loosened connector from shipping as I got it to tune up once after reseating the 12BY7A but then an hour later it was unresponsive again).

As I tend to listen much more than transmit, I'm a bit concerned about the tube filaments be powered all the time. Is my concern unwarranted even though the heater switch was included with the 530/830 models? I knew this was unique to the SE before I bought it, so no surprise there. Has anyone worked up a mod to switch the filament power as with the other models? I'm guessing a separate switch would be in order if it is even possible to do this.

My motivation for acquiring the radio is that it fulfills my idea of "vintage". In early 1981 I had just gotten interested in amateur radio and ordered "Tune in the World with Ham Radio" from ARRL and found the prominent TS520SE advertisement. I did not go that route as I wanted the WARC bands and jumped into Heathkits for a while and then the '830 in 1986. In 1995 I picked up the '820 as a second radio but traded it in 1999 for an FT-890 which allowed me to run HF mobile for the first time. About ten years ago I sold the '830 to a local as I wasn't using it and he doesn't wish to part with it. I chose to go back to something I dreamed about before I was ever licensed. My plan is to use this as a "vintage" radio for things like Straight Key Night and so on.

73, Nate N0NB

--

49448. Re: [TS-520_820_530_830] Re: TS-830s pll problem on 14 & 18 mhz band

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-29 17:39:29 UTC
From: k0sjs@...
Topic: 49240 Message: 49448

Well, I have gotten about as far as I can with this PLL problem and not having the proper test equipment to align the BPF's , I broke down and installed a replacement PLL board I got from Bob Mansker and all is well. The radio appears 100%. I will get back to this PLL when I get a sweep generator. Thanks much to Terry for all the assistance. 73's to the group.

Steve K0SJS

49449. Re: [TS-520_820_530_830] New to me TS-520SE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-29 20:42:39 UTC
From: Mike W5RKL
Topic: 49447 Message: 49449

Hello Nate,

My first Kenwood hybrid was a TS-520SE and a DG-5. Great radio, worked tons of RTTY in the early 80s using a Flesher TU170 TU, Teletype Corporation KSR as well as a Radio Shack TRS-80 Model 1 computer with "Cassette Tape" load software and a Macrotronics interface.

You said your TS-520SE lacks ALC. I assume that is during TUNE mode transmitter DRIVE tune up adjustment. If this is true then I suspect resistors R5 and/or R6 on the HV Unit have increased resistance which is causing a much lower level of screen voltage to the 6146 final tubes than normal TUNE mode level.

Check R5 and R6, they are both 56K 1/2 watt resistors.

73
Mike W5RKL

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http://www.avast.com

49450. Re: PS-511S Power supply

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-29 21:10:01 UTC
From: dlbowders@...
Topic: 49437 Message: 49450

Mike,
I do not have them on PDF format but what I do have are some very readable copies. I will drop them in the mail. I tried to get the 511S schematic enlarged but it did not turn out very professional. I will send what I have and if not good enough you can borrow my manual and copy what you want. I will get this in the mail this week and let you decide if it is good enough.
Regards,
Don K5HFG

49451. Re: [TS-520_820_530_830] New to me TS-520SE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-29 21:12:28 UTC
From: Nate Bargmann
Topic: 49447 Message: 49451

* On 2014 29 Jul 15:45 -0500, Mike W5RKL w5rkl@... [TS-520_820_530_830] wrote:
> Hello Nate,

Hi Mike.

> My first Kenwood hybrid was a TS-520SE and a DG-5. Great radio, worked tons
> of RTTY in the early 80s using a Flesher TU170 TU, Teletype Corporation KSR
> as well as a Radio Shack TRS-80 Model 1 computer with "Cassette Tape" load
> software and a Macrotronics interface.

I ran packet, PacTOR and RTTY on my '830 in the late '80s and early '90s
using a KAM. I tried AMTOR once or twice but I was afraid the relay
would pound itself to dust! I found the finals ran much cooler after I
neutralized them, particularly on RTTY.

My first computer was a TRS-80 Color Computer 2, cassette tape and all.
Within a few years I had a disk drive, etc. I like going back a bit in
time with the old radios, but the old computers can stay there!

> You said your TS-520SE lacks ALC. I assume that is during TUNE mode
> transmitter DRIVE tune up adjustment. If this is true then I suspect
> resistors R5 and/or R6 on the HV Unit have increased resistance which is
> causing a much lower level of screen voltage to the 6146 final tubes than
> normal TUNE mode level.
>
> Check R5 and R6, they are both 56K 1/2 watt resistors.

Yes, this is in the TUNE mode when trying to peak the DRIVE using the
ALC meter scale. I will check those resistors. Thanks for the tip,
Mike.

73, Nate, N0NB

49452. Re: [TS-520_820_530_830] Re: TS-830s pll problem on 14 & 18 mhz band

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-29 23:43:14 UTC
From: wagstw46@...
Topic: 49240 Message: 49452

Steve:

No shame in swapping boards. Often the fastest and easiest thing you can do to return a radio to service. It is what the big boys do as time is money.

Suggest you do Step 9 in Service Manual if you have not already with the "new" board. Hopefully you took a real good look at the molex connector pin soldering. I also like to apply a little deoxit to the LSB and USB trimmer caps TC-2 and TC-3 and exercise them before setting the SSB frequency response. That is typically about all you need to do with a PLL board swap other than setting the 10mhz reference clock.

Hang on to the PLL board as they are worth around $50 to $60 dollars. Even if you never align it you may need to harvest parts from it some day.

Terry K9TW

49453. Re: Flooded room TS-820 Handle up water to 1/3 up S-Meter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-30 03:35:31 UTC
From: scidoc@...
Topic: 49438 Message: 49453

I am sorry for any confusion. Although a member of this group for many years only viewed it never posted to it.

This is the whole story. I am a dedicated hybrid user. Bought my first Ts820s in 1978. After it was stolen I replaced it on Ebay then bought a second some years ago when the price looked good as a spare. Both worked fine before the water except for occasional DG1 issues common to most TS820s. About a year ago I bought a 756Pro. I was so taken by the spectrum analyzer that the two Kenwood went to storage. But foolishly storage was next to my operating
desk on the floor handle up. We had one enormous rain in December. Both Kenwood radios were sitting in 3 inches of water (remember stored suitcase
style handle up). This places the IntFreq (IF Board) closest to the floor. The height of the rain water in the rigs looked to come up to about 30% of the S Meter.

OK, Now for what I did. Removed both IF Board and soaked in Dish Soap water mixture for an hour then rinsed in water. Then board were dried with hair dryer and sprayed with DeOxit as recommended by Ken K4EEA.

One rig finally came back to life. It is as good a new.

The other radio has no audio. With earphone an increasing hiss is heard with increasing gain. The lights are on and the DG! works. The meter survived. I can trouble shoot with my scope which is a calibrated tektronix and has a high inpit impedance.

I have 2 blown up (24X36) schematics and all the manuals, mods, bulletins etc. I am experienced working with high voltages. I am not familiar with the layout by heart because I have never been required to troubleshoot a TS820s before.

So, when you suggest checking the bus voltage of something, please tell me where things are ocated until I get the hang of the rig. Like an old am radio,
I know what the five tubes do and how they do it and know the schematic in a general way in my head.

But the Kenwood is another level of complexity, so spoon feed me on where to check voltages and which lines do what to get a sense of what is working.

My Simpson 260 is too low in impedance. Some new small digital meters that I picked up, I'll check for the input impedance on the web. If not I'll find a pot.

Please tell me where to begin and generally how voltage and signal lines are identified.

The 7 pin shorting plug is in. The send switch is off. Only rcvr is on for now, transmit power (lower right) is off .

I appreciate your time and patience and look forward to any guidance you could provide.

Thanks,
Arnie WB2ABM

49454. Re: Flooded room TS-820 Handle up water to 1/3 up S-Meter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-30 11:36:26 UTC
From: wagstw46@...
Topic: 49438 Message: 49454

Arnie

When you say transmit power on lower right is off I think you mean the filament voltage is off (Heaters).

My guess is that the water didnt hurt the rig that has audio problem. I think you need to carefully pull the molex connectors off that IF board and clean with deoxit and reseat them for starters. Two events occurred. 1. Water immersion and 2. Removed the IF board and cleaned and dried it. My guess is the issue is related to the pulling and cleaning and re-installing of that IF board.

If you have no signal generator can use the Marker signal to trace the RIF with your O-scope to see if losing it. Can drive the AF board with any source of audio to see if it is functioning (tape recorder, MP-3 player, Lap top sound card etc). Even a clip lead at wiper of AF gain pot and a finger applied should produce a nice hum in the speaker.

Terry K9TW

49455. TS 830S & TS 530SP

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-30 12:20:06 UTC
From: wb9hla@...
Topic: 49455 Message: 49455

I have for sale A good working TS830S and a TS 530 SP.
I will be at the Lafayette Indiana Hamfest on Sunday August 17 if anyone is interested.
$485 for the 830 and $400 for the 530.

Gene WB9HLA

49456. Re: [TS-520_820_530_830] Re: Flooded room TS-820 Handle up water to 1/3 up S-Meter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-30 12:40:41 UTC
From: Mike W5RKL
Topic: 49438 Message: 49456

Arnie,

I agree with Terry's suggestions and comments. If I may add a comment or two to Terry's response.

1. The TS-820 does not have 5 tubes, only 3. A 12BY7/A driver and a pair of 6146Bs or Japanese S2001A equivalents.

2. The HEATER switch you refer to as the "Transmit Power", when set to ON, applies 12VAC to the driver and the final tubes (the 6146B filaments are wired in series). Naturally the opposite occurs when the HEATER switch is set to OFF.

3. The jumper plug and socket on the rear panel you referred to as being a "7 pin" socket is actually a 9 pin socket, it's the Remote VFO socket. The jumper plug has only one jumper inside, between pins 8 and 9, nothing more. If the jumper plug is lost, a simple wire jumper inserted between pins 8 and 9 will do the same thing the factory jumper plug does. The jumper plug or jumper wire MUST be inserted in the 9 pin socket, when either the VFO-520 or VFO-820 remote VFOs are not plugged into the 9 pin remote VFO socket. Failure to have a jumper plug or jumper wire between pins 8 and 9 will result in the TS-820's internal VFO not receiving power and the PLL Unit will switch to "Unlock" state causing the digital display to go DARK and complete loss of both transmit and receive functions.

4. I recommend using the 820 schematic(s) when servicing the 820. Relying on memory can easily cause you to go off in the wrong direction.

5. Since you have been handling the 820 quite a bit, I recommend you check the rear panel "SG" switch, ensure it's in the ON position for normal operation. If you are not sure what the SG switch does, I have a video on my website that discusses the TS-520, TS-820, and TS-530 SG switch and what each position, ON and OFF, performs. Click on the video link on my website's main page and scroll down to the SG switch video listings.

6. A used Heathkit, Eico, or other brand of VTVM with the DC voltage setting 1 meg probe will work in servicing the 820. These can be found on eBay are very reasonable prices. Probes can be made if the probes are not included in the sale. Understand that a VTVM or DMM/DVM connected to a circuit in the 820 can affect the circuit's operation. For example, measuring the AGC voltage with a VTVM and 1 meg probe can drag down the AGC buss giving you an inaccurate measurement.

I have high resolution schematics of the TS-820 and the various
boards/"Units" on my website:

www.w5rkl.com

Click on the manual and document link and scroll down to the TS-820 listing.

73
Mike W5RKL

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http://www.avast.com

49457. Re: [TS-520_820_530_830] Re: Flooded room TS-820 Handle up water to 1/3 up S-Meter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-30 12:55:55 UTC
From: Mike W5RKL
Topic: 49438 Message: 49457

One additional comment I forgot to mention.

The 820 AF AVR Unit boards are not all the same. They may "Look" the same and "X49-1080-00" board number on the component side may be the same but the foil side has a number that may be different than the board you have. The foil side number appears to be a factory revision which is not mentioned in any manual. Therefore, if you have to replace the AF AVR Unit board for any reason, you must ensure the foil side numbers on any replacement AF AVR Unit board are the same as the AF AVR Unit board in your 820. The AF AVR Unit board's "Xray" view showing the foil side of the board in the TS-820 service manual is the "1381-03" revision of the AF AVR Unit board. Your 820's AF AVR Unit board may have a different foil side number so pay attention to the foil side numbers. I ran into this problem when I service an 820 and wanted a spare AF AVR Unit board. The replacement had a different foil side number than the AVR board in my 820. When I tested the board I found ti didn't work in my 820. The replacement board was fine, it was the revision number on the foil side that made the difference.

73
Mike W5RKL

On 7/30/2014 7:40 AM, Mike W5RKL w5rkl@... [TS-520_820_530_830] wrote:
>
> Arnie,
>
> I agree with Terry's suggestions and comments. If I may add a comment
> or two to Terry's response.
>
> 1. The TS-820 does not have 5 tubes, only 3. A 12BY7/A driver and a
> pair of 6146Bs or Japanese S2001A equivalents.
>
> 2. The HEATER switch you refer to as the "Transmit Power", when set to
> ON, applies 12VAC to the driver and the final tubes (the 6146B
> filaments are wired in series). Naturally the opposite occurs when the
> HEATER switch is set to OFF.
>
> 3. The jumper plug and socket on the rear panel you referred to as
> being a "7 pin" socket is actually a 9 pin socket, it's the Remote VFO
> socket. The jumper plug has only one jumper inside, between pins 8 and
> 9, nothing more. If the jumper plug is lost, a simple wire jumper
> inserted between pins 8 and 9 will do the same thing the factory
> jumper plug does. The jumper plug or jumper wire MUST be inserted in
> the 9 pin socket, when either the VFO-520 or VFO-820 remote VFOs are

> not plugged into the 9 pin remote VFO socket. Failure to have a jumper
> plug or jumper wire between pins 8 and 9 will result in the TS-820's
> internal VFO not receiving power and the PLL Unit will switch to
> "Unlock" state causing the digital display to go DARK and complete
> loss of both transmit and receive functions.
>
> 4. I recommend using the 820 schematic(s) when servicing the 820.
> Relying on memory can easily cause you to go off in the wrong direction.
>
> 5. Since you have been handling the 820 quite a bit, I recommend you
> check the rear panel "SG" switch, ensure it's in the ON position for
> normal operation. If you are not sure what the SG switch does, I have
> a video on my website that discusses the TS-520, TS-820, and TS-530 SG
> switch and what each position, ON and OFF, performs. Click on the
> video link on my website's main page and scroll down to the SG switch
> video listings.
>
> 6. A used Heathkit, Eico, or other brand of VTVM with the DC voltage
> setting 1 meg probe will work in servicing the 820. These can be found
> on eBay are very reasonable prices. Probes can be made if the probes
> are not included in the sale. Understand that a VTVM or DMM/DVM
> connected to a circuit in the 820 can affect the circuit's operation.
> For example, measuring the AGC voltage with a VTVM and 1 meg probe can
> drag down the AGC buss giving you an inaccurate measurement.
>
> I have high resolution schematics of the TS-820 and the various
> boards/"Units" on my website:
>
> www.w5rkl.com
>
> Click on the manual and document link and scroll down to the TS-820
> listing.
>
> 73
> Mike W5RKL
> Â
>
>
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49458. Re: Flooded room TS-820 Handle up water to 1/3 up S-Meter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-30 15:21:10 UTC
From: scidoc@...
Topic: 49438 Message: 49458

Thanks All

Please give me the pin number of the audio board input and how you determined it and then a few steps further:

For example:

1. If you get audio out from applying audio to pin (What Pin) then the audio board is good, go to (whatever is next). If no audio, check board number etc.

By giving me three steps and how you are thinking I'll get a sense for going from schematic to board lay-out to exact location in rig.

I have a signal generator (Wavetek 142 to 10MHz).

Appreciate your help.

Arnie WB2ABM

49459. Re: [TS-520_820_530_830] Re: Flooded room TS-820 Handle up water to 1/3 up S-Meter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-30 16:56:48 UTC
From: Wes Will
Topic: 49438 Message: 49459

On 07/30/2014 07:40 AM, Mike W5RKL w5rkl@... [TS-520_820_530_830] wrote:

> 1. The TS-820 does not have 5 tubes

He was talking about having the schematic of the "ALL AMERICAN FIVE" or "AA5" five-tube superheterodyne radio in memory, rather than having the Kenwood transceiver schematic memorized.

--
Wes Will
N9KDY

49460. Re: [TS-520_820_530_830] Re: Flooded room TS-820 Handle up water to 1/3 up S-Meter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-30 17:24:07 UTC
From: Mike W5RKL
Topic: 49438 Message: 49460

Wes and Arnie,

Wes, if that's what Arnie meant by his "5 tubes" statement then I stand corrected.

Arnie, I mean no disrespect but you need to spend some time studying the TS-820's Circuit Description sections in the operator and service manuals plus study the TS-820 block diagram and high resolution schematics (use the links I provided you so you can download, free, the high resolution TS-820 schematics).

The high resolution schematics have voltages at specific points (voltages inside parenthesis are Transmit voltages and voltages not in parenthesis are standby/receive voltages).

You also need to learn what the rear panel RF Volt, SG, and Xverter switches are for and what would happen if the SG and/or Xverter switches are in the wrong position as well as what the RF Volt pot does (you can find this out by studying the TS-820 full schematic and discussion of the controls in the operator's manual).

73
Mike W5RKL

On 7/30/2014 11:56 AM, Wes Will wwill@...
[TS-520_820_530_830] wrote:
>
> On 07/30/2014 07:40 AM, Mike W5RKL w5rkl@... [TS-520_820_530_830]
> wrote:
>
> > 1. The TS-820 does not have 5 tubes
>
> He was talking about having the schematic of the "ALL AMERICAN FIVE" or
> "AA5" five-tube superheterodyne radio in memory, rather than having the
> Kenwood transceiver schematic memorized.
>
> --
> Wes Will
> N9KDY
>
>

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49461. Re: Flooded room TS-820 Handle up water to 1/3 up S-Meter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-30 19:31:34 UTC
From: scidoc@...
Topic: 49438 Message: 49461

I am having trouble reaching the Yahoo use Groups with my Macbook Pro and any browser.

I switched to an old Window XP machine which hits it fine. I am also apparently not signing correctly so would appreciate what I am doing wrong from the Group Moderator.

In answer to your other specific questions.

It worked fine before water issue.

Where is the best pin the check (IF BOARD) output and what should it look like. Also IF board pins for DC, so at least I know it is powered correctly.

It was fresh rainwater and noticed in about 8 hours after torrential rain.

I have a Simpson 260, but not a high impedance VTVM. Can the calibrated tecktronix scope due for the VTVM. If not my solid state VMM has at least a 1 Meg impedance.

I received need the probe instructions, thank you. I worked for RCA as an engineer on the rendezvous
radar for Apollo and am appropriately careful around high voltages.

I have all the manuals and had 2 schematics made from Ken's PDF schematic 24" x36".

So what I am looking for is an approach. For example, "If you a lacking audio
start at A because it should be checked first. Then trace DC using Board schematics or whatever".

I am a fast learner once I have a feel for the radio. I can see where all the boards are, controls and in and outputs are clear but more subtle locations I would appreciate help.

I can tell from reading previous postings that the group is outstanding.

I'm thinking the IF board was lowest and exposed to water and have washed and cleaned it but

will check connections again.

The rig looks pretty clean. No visible corrosion.

Thanks for any help you might provide.

Arnie WB2ABM

49462. Re: [TS-520_820_530_830] Re: Flooded room TS-820 Handle up water to 1/3 up S-Meter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-30 20:18:05 UTC
From: scidoc@...
Topic: 49438 Message: 49462

That is correct. I am having trouble posting to protocol so any advice would be appreciated. A post was blocked because my signiture was not correct.
Please lets me know how it should look. My Macbook Pro cannot find Yahoo Groups on any browser I've tried.

I know it sound crazy, but it's true. So I have to switch to a windows machine to view it.

I was trying to be modest but perhaps I overdid it. I am an electrical engineer with a great deal of analog experience I am embarrassed to admit.

I would appreciate help from those of you who know the TS820s inside and out to get the hang of checking DC voltages and then signal and injecting signal.

I would start with the IF board but will defer to the groups expertise.
I know what all the controls do and have 24X36 schematics all the bulletins and circuit board blowups.

Just need a little direction as we start so I get a working knowledge of the radio.

Terry, Mike, Wes and all, appreciate your help.

Arnie WB2ABM

---In TS-520_820_530_830@yahoogroups.com, <w5rkl@...> wrote :

Wes and Arnie,

Wes, if that's what Arnie meant by his "5 tubes" statement then I stand corrected.

Arnie, I mean no disrespect but you need to spend some time studying the TS-820's Circuit Description sections in the operator and service manuals plus study the TS-820 block diagram and high resolution schematics (use the links I provided you so you can download, free, the high resolution TS-820 schematics).

The high resolution schematics have voltages at specific points (voltages inside parenthesis are Transmit voltages and voltages not in parenthesis are standby/receive voltages).

You also need to learn what the rear panel RF Volt, SG, and Xverter switches are for and what would happen if the SG and/or Xverter switches are in the wrong position as well as what the RF Volt pot does (you can find this out by studying the TS-820 full schematic and discussion of the controls in the operator's manual).

73
Mike W5RKL

On 7/30/2014 11:56 AM, Wes Will wwill@... mailto:wwill@... [TS-520_820_530_830] wrote:

On 07/30/2014 07:40 AM, Mike W5RKL w5rkl@... mailto:w5rkl@... [TS-520_820_530_830] wrote:

> 1. The TS-820 does not have 5 tubes

He was talking about having the schematic of the "ALL AMERICAN FIVE" or "AA5" five-tube superheterodyne radio in memory, rather than having the Kenwood transceiver schematic memorized.

--
Wes Will
N9KDY

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49463. Re: [TS-520_820_530_830] Re: Flooded room TS-820 Handle up water to 1/3 up S-Meter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-31 04:25:23 UTC
From: scidoc@...
Topic: 49438 Message: 49463

I have tested the radio with all controls in proper position and same as other 820 alongside it which works.

1. Power on
2. Pilot lights on
3. No S meter function
4. No sound.
5. Digital display works, all digits and corresponds to analog frequency.
6. Digital readout changes with band and VFO.
7. T/R switch relay dies not activate on send as with the other TS-820.
8. Relay works in both radios.
9. Could the T/R socket or connections explain the problem?
10. If the socket is the problem, would placing jumpers to simulate a plugged in relay help. It would have to be a problem with the socket
11. Please advise me on whether this is worth pursuing and if so, help with jumpering pins.
12. High Voltage is present as tubes discharge, but HV not seen on S-meter in HV position.

Any suggestions or stratagems welcome. I can meet on the air or provide a telephone number.

Thanks to all,

Arnie WB2ABM

49464. Re: eby VFO

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-31 15:40:35 UTC
From: Rich Jones
Topic: 49464 Message: 49464

I see a 520 VFO on ebay for buy it now $69.00. Looks decent but no cables. Not mine but thought the group might like to know.

73 Rich K8UV

49465. Re: [TS-520_820_530_830] Re: Flooded room TS-820 Handle up water to 1/3 up S-Meter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-31 16:41:56 UTC
From: scidoc@...
Topic: 49438 Message: 49465

For clarity please post to this forum.

I can meet on the air or provide a telephone number if anyone is wishes to talk.

I have reviewed the schematic and circuit board breakout and all Service Bulletins from Kenwood. I understand the function of all the chassis switches and controls.

Does the data I provided suggest the T/R switch vs. the IF board or are you led in another direction. Suggestions welcome.

Arnie WB2ABM

49466. Re: [TS-520_820_530_830] Re: Flooded room TS-820 Handle up water to 1/3 up S-Meter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-31 17:49:20 UTC
From: Mike W5RKL
Topic: 49438 Message: 49466

Arnie,

You first say both relays work but then you say they don't work when the SEND switch is activated.

Are you saying if you ground pin 2 on the MIC socket OR you flip the SEND switch UP, the relays do NOT energize?

The SEND switch AND the MIC socket Pin 2 are both wired in "parallel" and both connect through a single wire to the FIX VOX Unit board's FIX3 plug pin 4. They BOTH perform the same function, they ground FIX VOX Unit plug FIX3 pin 4 "SS" terminal. Grounding FIX 3 pin 4 "SS" ground the base of Q9, relay control transistor, resulting in both relays energizing. If grounding pin 2 or flipping SEND switch UP does NOT energize the relays then use a jumper and short FIX VOX Unit plug FIX3 pin 4 (SS) to ground. If doing that energizes the relays then there is an open between the FIX VOX Unit board's FIX3 plug pin 4, "SS" terminal, and the junction of the SEND switch and pin 2 of the MIC socket. All of what I am telling you can be easily seen if you study the high resolution TS-820 schematic I referred you to and the high resolution FIX VOX Unit board schematic link below.

There are "2" relays in the TS-820

1. Control relay on the Relay Unit board found below the chassis in a plug in socket.
2. Antenna change over (RL1), meter control (RL3), Xverter control pin 8 (RL2), and external amplifier relay control (RL4) is found below the chassis next to rear panel and the Final Unit, inside a small metal enclosure.

Both relays are "identical" 4PDT relays. You should spend some time studying the FIX VOX Unit board. You can download the high resolution schematic of the FIX VOX Unit board from my website at the following link

http://w5rkl.com/wp-content/uploads/2014/04/TS-820-FIX-CH-UNIT-HI-Res-SChematic.pdf

73
Mike W5RKL

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49467. TS530S for sale

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-31 20:36:29 UTC
From: David Birnbaum
Topic: 49467 Message: 49467

I find I don't have the time to devote to fixing this rig, so I'm offering it here first.

Kenwood TS530S needs work:
Transmitter was working last time it was tested.
Receiver front end (L41) missing; replacement home wound transformer installed. Needs further testing.
Blown regulator transistor in 12V supply. This was due to unfortunate short while testing.

Biggest problem (before blown 12V) was finding a replacement for L41. I've tried a Toko transformer re-wound to make what I thought would be an L41 equivalent. I can supply details of the rewinding.

Case has some rust but otherwise okay.

Can be fixed or used for parts.

dave
k2lyv

49468. Re: [TS-520_820_530_830] Re: Flooded room TS-820 Handle up water to 1/3 up S-Meter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-07-31 21:27:25 UTC
From: scidoc@...
Topic: 49438 Message: 49468

I am referring to the control relay. I have a working TS820 and the fixer TS820s. Both control relays work in the good radio. Neither works in the defective radio.

So the control relays are both good but neither work in the problem TS820.

I have all the schematics 24X36 mian schematic all Bulletins from Kenwood and all manuals. I have looked at them all.

Thanks I will try the jumper.

Arnie WB2ABM

49469. Re: [TS-520_820_530_830] TS530S for sale

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-01 00:01:31 UTC
From: Daniel Curry
Topic: 49467 Message: 49469

David,

Please let me know off list how much you want for the non-functional rig
and shipping to 42753.

Thanks.

Daniel de KK4SWX

On 7/31/2014 3:36 PM, David Birnbaum dbirnbau@...
[TS-520_820_530_830] wrote:
> I find I don't have the time to devote to fixing this rig, so I'm
> offering it here first.
>
> Kenwood TS530S needs work:
> Transmitter was working last time it was tested.
> Receiver front end (L41) missing; replacement home wound
> transformer installed. Needs further testing.
> Blown regulator transistor in 12V supply. This was due to
> unfortunate short while testing.
>
> Biggest problem (before blown 12V) was finding a replacement for L41.
> I've tried a Toko transformer re-wound to make what I thought would
> be an L41 equivalent. I can supply details of the rewinding.
>
> Case has some rust but otherwise okay.
>
> Can be fixed or used for parts.
>
> dave
> k2lyv
>

49470. Re: [TS-520_820_530_830] Re: Flooded room TS-820 Handle up water to 1/3 up S-Meter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-01 01:24:39 UTC
From: wagstw46@...
Topic: 49438 Message: 49470

If the IF board was submerged then likely the FIX board was as well. As Mike mentions the relay keying transistor and circuitry is on this board. I would pull and clean it and clean the molex connectors. Also if water was high enough perhaps what you are calling the control relay was submerged. It is not a sealed unit. The relays do not need to be keyed for Rx mode which you report is not functioning but do need good control relay contacts for AGC bus action.

Terry K9TW

49471. Re: eby VFO

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-01 11:41:03 UTC
From: Brian Allen
Topic: 49464 Message: 49471

I've purchased several vfos-520 and others off ebay. Paid way too much for one. When I wanted my first one, I think everyone else wanted one. They have gone down since then....

49472. Hybrid Legacy Net Update (July 31, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-01 14:26:25 UTC
From: Mark Gilger
Topic: 49472 Message: 49472

Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

The net started it's existence on November 1st, 2012. The yearly check-in totals are posted at the bottom of this message. It showed we had a 10% increase in our Saturday check-ins and an 8% on Sunday as compared to the 2012 check-ins.

The Saturday net was run by me, WB0IQK. There were 9 stations checking in under good band conditions. We had the following number of radios checking in.

0 running TS-520(x)
0 running TS-530(x)
2 running TS-820(x)
1 running TS-830S
0 running TS-511
0 running 599 twins

The rest were running non Kenwood hybrid equipment.

The Sunday net was run by me, WB0IQK. There were 20 stations checking in under good band conditions. We had the following number of radios checking in.

4 running TS-520(x)
0 running TS-530(x)
3 running TS-820(x)
1 running TS-830S
0 running TS-511
0 running 599 twins

The rest were running non Kenwood hybrid equipment.

I was running my TS-820s twins (TS-820S + R820).

We have been having several people checking in regularly with their TS-430, TS-440, and TS-940□s, which of course is not a hybrid, although over 30+ years old. Everyone is welcome as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a net control station, please send me an email. Currently it's just myself, WB2KNR and WB0SGA. I would like to get several more. If we do, we can alternate so everyone might be on a 3-4 week rotation. It's a lot of fun and a good way to make sure you station is optimized.

For anyone that has not heard, we have a new web site that WB4HFN is hosting. He currently has a very nice site for Drake, Collins and Heathkit and now Kenwood Hybrids. Good quality manuals plus sale flyers and brochures will be found here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 ☐ Oct. 2012 Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins

November 2013, Saturday☐s net total = 94, Sunday☐s total = 85
December 2013, Saturday☐s net total = 87, Sunday☐s total = 103
January 2014, Saturday☐s net total = 71, Sunday☐s total = 82
February 2014, Saturday☐s net total = 80, Sunday☐s total = 85
March 2014, Saturday☐s net total = 82, Sunday☐s total = 73
April 2014, Saturday☐s net total = 64, Sunday☐s total =43
May 2014, Saturday☐s net total = 66, Sunday☐s total = 35
June 2014, Saturday☐s net total = 43, Sunday☐s total = 59
July 2014, Saturday☐s net total = 24, Sunday☐s total = 46 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

49473. Re: eby VFO

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-01 17:56:33 UTC
From: w5rkl@...
Topic: 49464 Message: 49473

The VFO-520 will work, plug and play, no conversion necessary, in both a TS-520 AND a TS-820. The same goes for the VFO-820, it will work, plug and play no conversion necessary, in a TS-820 and a TS-520.

The VFOs in both VFO520 and VFO820 are the same analog VFOs in the TS-520 and TS-820.

73
Mike W5RKL

49474. Kenwood 520 No IP current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-02 13:13:46 UTC
From: k4ynd@...
Topic: 49474 Message: 49474

I have not used my 520 in about a month. When I tried to tune it up into a dummy load, I get a nice reading on the ALC and peak the drive

I switch the mode to cw, meter to IP, and send switch to IP, no 60ma. If I key it nothing happens.

Where should I start?

73

K4YND
Don

49475. Re: *** SPAM ***[TS-520_820_530_830] Kenwood 520 No IP current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-02 14:33:46 UTC
From: Mike W5RKL
Topic: 49474 Message: 49475

Don,

Check the rear panel's SG switch to ensure its in the "ON" position. You may have accidentally pushed the SG switch into the OFF position when handling the 520. The SG switch will not prevent you from seeing a peak ALC indication in TUNE mode while adjusting the DRIVE control but it will prevent IP current indication in CW, USB, and LSB mode.

You can see what the SG switch does by going to the following link:

http://w5rkl.com/wp-content/uploads/2014/03/Function-of-the-520-530-and-820-SG-Switch.wmv

73
Mike W5RKL

On 8/2/2014 8:13 AM, k4ynd@... [TS-520_820_530_830] wrote:
>
> I have not used my 520 in about a month. When I tried to tune it up
> into a dummy load, I get a nice reading on the ALC and peak the drive
>
> I switch the mode to cw, meter to IP, and send switch to IP, no 60ma.
> If I key it nothing happens.
>
> Where should I start?
>
> 73
>
> K4YND
> Don
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

49476. Re: Kenwood 520 No IP current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-02 18:09:19 UTC
From: k4ynd@...
Topic: 49474 Message: 49476

Wow!!!!!!

Spot on.... Im back in action..

Thanks a million.. Video was great.

73

Don

49477. Vintage Hybrid Net Update (August 3, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-03 19:17:26 UTC
From: Mark Gilger
Topic: 49477 Message: 49477

Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

The net started it's existence on November 1st,
2012. The yearly check-in totals are posted at
the bottom of this message. It showed we had a
10% increase in our Saturday check-ins and an 8%
on Sunday as compared to the 2012 check-ins.

The Saturday net was run by me, WB0IQK. There
were 17 stations checking in under good band
conditions. We had the following number of radios checking in.

3 running TS-520(x)
2 running TS-530(x)
4 running TS-820(x)
4 running TS-830S
0 running TS-511
0 running 599 twins

The rest were running non Kenwood hybrid equipment.

The Sunday net was run by me, WB0IQK. There were
11 stations checking in under good band
conditions. We had the following number of radios checking in.

3 running TS-520(x)
1 running TS-530(x)
4 running TS-820(x)
1 running TS-830S
0 running TS-511
0 running 599 twins

The rest were running non Kenwood hybrid equipment.

I was running my TS-820s twins (TS-820S + R820).

We have been having several people checking in
regularly with their TS-430, TS-440, and
TS-940□s, which of course is not a hybrid,
although over 30+ years old. Everyone is welcome
as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a net control station, please send me an email. Currently it's just myself, WB2KNR and WB0SGA. I would like to get several more. If we do, we can alternate so everyone might be on a 3-4 week rotation. It's a lot of fun and a good way to make sure you station is optimized.

For anyone that has not heard, we have a new web site that WB4HFN is hosting. He currently has a very nice site for Drake, Collins and Heathkit and now Kenwood Hybrids. Good quality manuals plus sale flyers and brochures will be found here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 ☐ Oct. 2012 Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins

November 2013, Saturday☐s net total = 94, Sunday☐s total = 85
December 2013, Saturday☐s net total = 87, Sunday☐s total = 103
January 2014, Saturday☐s net total = 71, Sunday☐s total = 82
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March 2014, Saturday☐s net total = 82, Sunday☐s total = 73
April 2014, Saturday☐s net total = 64, Sunday☐s total =43
May 2014, Saturday☐s net total = 66, Sunday☐s total = 35
June 2014, Saturday☐s net total = 43, Sunday☐s total = 59
July 2014, Saturday☐s net total = 24, Sunday☐s total = 46
August 2014, Saturday☐s net total = 18, Sunday☐s total = 11 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

49478. TS-530 Modulation

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-04 21:22:05 UTC
From: Bill Snyder
Topic: 49478 Message: 49478

Hi everyone, I’m new to this group but not to Kenwoods. I just picked up a TS-530 and everything works great but I am having problems with the modulation. It has a garbled sound. Almost like there is a 60 cycle hum or something when I talk. Almost like it is over modulating with a hum. Never hear a hum when not talking just when I speak into the mic. I have tried 4 different mics and they all sound the same. Hoping someone has run into this before. Thanks Bill WR4G

49479. Re: [TS-520_820_530_830] TS-530 Modulation

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-04 21:43:05 UTC
From: Joseph Stiles
Topic: 49478 Message: 49479

Welcome aboard Bill,

Are you SURE that all the mics your are using are wired correctly and have the proper impedance? A mic wiring diagram can be found in the operators manual, in the "files section" of this group, or on Ken Kempski's web site: K4eaa "dot com"

73 Joe
WB7UQU

On Monday, August 4, 2014 2:32 PM, "'Bill Snyder' mgbv8@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Hi
everyone, I’m new to this group but not to Kenwoods. I just picked up a TS-530 and everything works great but I am having problems with the modulation. It has a garbled sound. Almost like there is a 60 cycle hum or something when I talk. Almost like it is over modulating with a hum. Never hear a hum when not talking just when I speak into the mic. I have tried 4 different mics and they all sound the same. Hoping someone has run into this before. Thanks Bill
WR4G
>
>
>

49480. Re: [TS-520_820_530_830] TS-530 Modulation

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-04 21:56:23 UTC
From: Mark Gilger
Topic: 49478 Message: 49480

Bill,
Welcome to the group.

The mic needs to be wired per the attachment. It's also shown on page #6, Figure 2-1 in your operations manual.

Did you wire up the mic plug, or were the connectors already attached to the mics? If you have miswired pin 1 to 4 and 4 to 1 it would produce hum like your indicating.

Mic Plug Breakout:
http://wb4hfn.com/KENWOOD/Docs/Kenwood%20connectors.pdf

TS-530S manual:
http://wb4hfn.com/KENWOOD/Manuals/TS530S_Instruction_Manual_W0NTO.pdf

Regards,
Mark, WB0IQK

49481. Re: [TS-520_820_530_830] TS-530 Modulation

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-05 01:36:40 UTC
From: Bill Snyder
Topic: 49478 Message: 49481

Thanks for every ones response. I am sure the mics are wired correctly. I have used my mxl 990 boom mic, MC-60, a turner plus 2 and a d-104. Same results on all. I used the MC-60 with the amp on and off and changed the impedance no change. I think if band conditions are good Sat and Sun I will try to get on the hybrid nets and see what happens. I am starting to wonder if I have a bad cap on the AF board. Thanks again and any more ideas would be appreciated. Bill WR4G

49482. Re: [TS-520_820_530_830] TS-530 Modulation

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-05 01:49:55 UTC
From: W5RKL
Topic: 49478 Message: 49482

Bill,

The MIC 4 pin plug's PTT ground and the MIC audio shield ground cannot
be connected to the same ground.

Front panel microphone socket wiring:
PTT relay connection is on pin 2 and PTT relay ground is on pin 3
MIC audio is on pin 1 and MIC audio shield ground is on pin 4

See the 530 schematic for microphone wiring and microphone schematic
details. If the .01ufd cap lead(s) is/are bad/broken by accident then
it's quite possible your microphone wiring is correct but the fault may
be in the 530's MIC socket wiring, at the socket.

73
Mike W5RKL

On 8/4/2014 8:36 PM, 'Bill Snyder' mgbv8@... [TS-520_820_530_830] wrote:
>
> Thanks for every ones response. I am sure the mics are wired
> correctly. I have used my mxl 990 boom mic, MC-60, a turner plus 2 and
> a d-104. Same results on all. I used the MC-60 with the amp on and off
> and changed the impedance no change. I think if band conditions are
> good Sat and Sun I will try to get on the hybrid nets and see what
> happens. I am starting to wonder if I have a bad cap on the AF
> board. Thanks again and any more ideas would be appreciated. Bill WR4G
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

49483. Re: [TS-520_820_530_830] TS-530 Modulation

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-05 06:22:22 UTC
From: Graham
Topic: 49478 Message: 49483

Hi I also think that a poor earthing may cause this due to RF pickup. This would account for the hum only being there when modulating. For some reason RF pickup nearly always produce the standard mains power frequency (50Hz over here) as an unwanted modulation.
Cheers Graham G8ZNK

Moderator's note:
Unnecessary text has been removed
73
Mike W5RKL
Yahoo Kenwood TS_520_829_530_830 Moderator

49484. Fixed Padder RF Caps

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-05 21:00:34 UTC
From: wagstw46@...
Topic: 49484 Message: 49484

Anyone have a reliable source of Type 1 RF capacitors (temp coefficient NPO or COG type) for replacing the fixed padder caps that are switched in across the Pi-network tank and load capacitors.

I found a few values on Mouser and placed order for them today, but they did not have all the values to do a complete recap. I have a TS-830 here now with 3 badly burned caps.

These need to be leaded type capacitors. I have used some with short leads and added lead length to them but would prefer new caps with long leads.

Thanks
Terry K9TW

49485. Re: Fixed Padder RF Caps

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-05 21:25:16 UTC
From: ttinagero1195@...
Topic: 49484 Message: 49485

Terry,

Have you tried halted specialties ?

HSC Electronic Supply - Silicon Valley's Electronic Marketplace http://www.halted.com

http://www.halted.com

HSC Electronic Supply - Silicon Valley's Electronic ... http://www.halted.com HSC Electronics was founded in 1963 and is in the business of selling and buying electronic components and equipment. We have a storefront for wa...

View on www.halted.com http://www.halted.com
Preview by Yahoo

Terry
KK6DQC

this post edited as it contained already posted material. 73 Joe wb7uqu

49486. TS-830S RF boards for sale

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-05 20:24:20 UTC
From: w0nta@...
Topic: 49486 Message: 49486

Hi All,

I have two RF boards for the TS-830S transceivers. These have both been completely gone through including rebuilding the bandswitch. The switches have been taken apart, cleaned, and each contact checked for resistance. After rebuilding, I installed each board in a transceiver and aligned the board. Installing in another radio might require some adjustment. I want $110.00 each for these boards shipped to you via USPS First Class Mail. If your old board is salvageable, we can talk about using it as a trade in. Please contact me at dick@w0nta.com.

Thanks for looking.

73, Dick, W0NTA
Greeley, CO

49487. Re: [TS-520_820_530_830] Fixed Padder RF Caps

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-05 23:17:35 UTC
From: Jan Servaites
Topic: 49484 Message: 49487

Terry,
Wouldn't 500v micas do the job?
If so, I have a wide variety of them here (I have some 1kv micas too)
Jan N8CBX

wagstw46@... [TS-520_820_530_830] wrote:

>
>
> Anyone have a reliable source of Type 1 RF capacitors (temp
> coefficient NPO or COG type) for replacing the fixed padder caps that
> are switched in across the Pi-network tank and load capacitors.
>
>
> I found a few values on Mouser and placed order for them today, but
> they did not have all the values to do a complete recap. I have a
> TS-830 here now with 3 badly burned caps.
>
>
> These need to be leaded type capacitors. I have used some with short
> leads and added lead length to them but would prefer new caps with
> long leads.
>
>
> Thanks
>
> Terry K9TW
>
>

49488. Re: [TS-520_820_530_830] Fixed Padder RF Caps

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-05 23:33:21 UTC
From: wagstw46@...
Topic: 49484 Message: 49488

Jan:

Yes dipped silver mica would work if enough room to get them in. 500vdc is fine for the ones switched in across the Loading cap. The nice thing about the original disc ceramics is they lay flat on each other like a stack of fanned coins.

I found quite a few sites like Just Radios in Canada and other antique radio suppliers that sell silver micas in both 500vdc and 1000vdc.

Right now I am looking at C10 390pf 3kv that is burned black and the top is split open on it. It is one of the fixed padders switched in across the tank capacitor. It isnt an RF cap, but would like to put one there.

Replacing the stack under the loading cap is not much fun!

If I strike out on I may come back to you Jan with the values I need. I really appreciate the offer of help.

Terry K9TW

49489. Re: [TS-520_820_530_830] Fixed Padder RF Caps

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-06 00:02:37 UTC
From: Jan Servaites
Topic: 49484 Message: 49489

Terry,
MCM now has a wide variety of ceramics, and many with high working voltages.
Here's a Vishay 390pf @ 3kv for $0.45
http://www.mcmelectronics.com/product/135-564R30GAT39

Jan

On 8/5/2014 7:33 PM, wagstw46@... [TS-520_820_530_830] wrote:
>
> Jan:
>
> Yes dipped silver mica would work if enough room to get them in.
> 500vdc is fine for the ones switched in across the Loading cap. The
> nice thing about the original disc ceramics is they lay flat on each
> other like a stack of fanned coins.
>
--
Directly from the N8CBX studio, Kettering OH

49490. Re: [TS-520_820_530_830] Fixed Padder RF Caps

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-06 00:23:17 UTC
From: wagstw46@...
Topic: 49484 Message: 49490

Yes I saw it that MCM had them. I buy from them from time to time. However, it is not an RF cap. Mouser has same ones as well. I did buy two of them from Mouser in case I strike out.

I will go back with one of these regular disc ceramics if cant find the RF caps.

At 100 watts output there is approx 545rf volts across the Tank cap and its switched in fixed padders.

If you look at all the padders in the TS-830 you will see KW speced 500 volt RF caps (Type 1) for the ones across the Plate load cap. It sees approx 71 rf volts at 50 ohms and as much as 300 rf volts open circuited. So 500 volt RF caps were speced here. 500 wvdc Type 1 caps were pretty common in the day (NPOs).

My guess is that they did not use RF caps across the Tank cap as hard to find them at higher than 500wvdc. So I am thinking that they went with the 3kv rated disc ceramics across the Tank cap because couldnt find RF caps at 1000wvdc and 500wvdc wasnt high enough.

Not sure why they didnt use 1000wvdc silver micas other than perhaps cost?

Terry K9TW

49491. RE: [TS-520_820_530_830] Fixed Padder RF Caps

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-06 00:38:59 UTC
From: fpath fpath
Topic: 49484 Message: 49491

Terry,

I have the ceramic disc Type 1, cap that you need, However, you need to replace the C9 and C10 as the 100 will be out of spec or at least highly stressed, this is what I have found on all the ones I have had the privilege of having to rebuild. I know one is 1KV and the other is 3KV, that is all I could get and it was a special order.Email me direct and we can discuss

73s

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: TS-520_820_530_830@yahoogroups.com
Date: Tue, 5 Aug 2014 17:23:17 -0700
Subject: Re: [TS-520_820_530_830] Fixed Padder RF Caps

Yes I saw it that MCM had them. I buy from them from time to time. However, it is not an RF cap.

Mouser has same ones as well. I did buy two of them from Mouser in case I strike out.

I will go back with one of these regular disc ceramics if cant find the RF caps.

At 100 watts output there is approx 545rf volts across the Tank cap and its switched in fixed padders.

If you look at all the padders in the TS-830 you will see KW speced 500 volt RF caps (Type 1) for the ones across the Plate load cap. It sees approx 71 rf volts at 50 ohms and as much as 300 rf volts open circuited. So 500 volt RF caps were speced here. 500 wvdc Type 1 caps were pretty common in the day (NPOs).

My guess is that they did not use RF caps across the Tank cap as hard to find them at higher than 500wvdc. So I am thinking that they went with the 3kv rated disc ceramics across the Tank cap because couldnt find RF caps at 1000wvdc and 500wvdc wasnt high enough.

Not sure why they didnt use 1000wvdc silver micas other than perhaps cost?

Terry K9TW

or

49492. RE: [TS-520_820_530_830] Fixed Padder RF Caps

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-06 00:55:38 UTC
From: fpath fpath
Topic: 49484 Message: 49492

Terry,

Sorry meant c26 22pf, but I alway replace the 3 of them.

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: TS-520_820_530_830@yahoogroups.com
Date: Tue, 5 Aug 2014 17:23:17 -0700
Subject: Re: [TS-520_820_530_830] Fixed Padder RF Caps

Yes I saw it that MCM had them. I buy from them from time to time. However, it is not an RF cap.

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Not sure why they didnt use 1000wvdc silver micas other than perhaps cost?

Terry K9TW

49493. Re: TS-830S RF boards for sale

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-05 22:56:07 UTC
From: w0nta@...
Topic: 49486 Message: 49493

Both boards are sold.

73, Dick, W0NTA

49494. RE: [TS-520_820_530_830] Fixed Padder RF Caps

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-06 12:05:41 UTC
From: wagstw46@...
Topic: 49484 Message: 49494

Hi Dave:

Yes even though C10 is the only failed one I will replace C9, C10, and C26 while I am there.

I ordered the Type 2 disc ceramics from Mouser just in case I cant find Type 1 subs.

Mouser also had couple of the Type 1 500vdc values for the Loading capacitor padders. They did not have all the ones for the Loading cap and had no Type 1s for the 3 Tank capacitor padders.

It looks very much like I will have to go back with Type 2 for C9, C10, and C26. I guess not a big deal as they lasted nearly 35 years in this TS830 and I dont often find them bad. It is more common to find bad rf choke bypass in my experience.

If you look at the old ARRL handbooks of the 60s and study the transmitter and amplifier projects you will see as Jan N8CBX mentions that all the pi-network padders are speced for high voltage mica caps.

I will contact you off list to continue this subject.

Appreciate all who responded.

Terry K9TW

49495. RE: [TS-520_820_530_830] Fixed Padder RF Caps

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-06 15:03:23 UTC
From: fpath fpath
Topic: 49484 Message: 49495

Terry,

Should have known you'd do that!!! My mistake sorry, hi hi.

For those members who would like an understanding of Type 1 and Type 2 capapcitors try this link, very good reading and will improve your knowledge and understanding of capacitors

http://www.qsl.net/i0jx/capacit.html

73s

Dave

VK5PDL

Extract from the webpage:

TYPES OF RF CAPACITORS

Let us now pass to consider products available on the market. Air-insulated capacitors would be ideal for RF applications, them not being subject to dielectric loss; unfortunately they are very bulky. Making the capacitor with a material having a dielectric constant (k) higher than that of air (k = 1) permits to reduce capacitor size; the formula is very simple: for a given physical capacitor geometry, capacitance is just proportional to k. The market of capacitors for RF applications is today dominated by ceramic capacitors that feature very high k values, up to 10,000 or more.
Selecting a dielectric with a high k yields however some drawbacks, the most important ones being:

the Temperature Coefficient of Capacitance (TCC), which is the maximum change in capacitance over a specified temperature range, increases and tends to show a non-linear behaviour;

the dissipation factor also increases;

tight tolerances are not easy to achieve;

actual capacitance becomes sensitive to the applied vdc (capacitance may drop down to 50% of its nominal value when vdc = Vn);

higher aging rate, a phenomenon due to the relaxation of the microcristalline structure that causes capacitance loss with time, due to a reduction of k. A high-k capacitor could lose up to 25% of its capacitance 4,000 hours after fabrication, but after that capacitance loss becomes much slower.
Type-1 dielectric is material with low k (say less than 200). The TCC for type-1 dielectric, expressed in parts per million per degrees centigrade, is quite moderate. The temperature characteristic of a type-1 dielectric is directly related to its k, as shown in the following table.

Capacitors built with type-1 dielectric are called RF power capacitors; they usually feature a Vn greater than 1kV, an In greater than 1A, a Pm greater than 1kVAr, an almost linear temperature coefficient of less than 1,300ppm/°C and a dissipation factor of less than 0.001. Picture below shows typical RF power capacitors. They are used in applications where temperature stability is important (e.g. resonating circuits) and high Q is required.

Low-capacity (e.g. < 1,000pF) disc-type capacitors with wire leads are most often also built with type-1 ceramics and then have characteristics similar to those of the RF power capacitors.
Type-2 dielectric is material with high k (up to 5,000 or even more). In this case TCC is much higher, varies with temperature, and is usually expressed in percentage of capacity change. A three-symbol designator, e.g., Z5U, X5V, is used to characterize the temperature behaviour of the capacitor (you may have read such strange markings, most often on wire-lead disc-type capacitors). Their significance is shown in the following table.

For instance, the Z5U designator indicates a capacitance variation of +22% / -56% across the temperature range +10°C / +85°C.
Also for type-2 dielectric the temperature characteristic is bound to k, as presented in table below.

The nominal capacity indicated by the manufacturer is referred to a temperature of 25°C. As already mentioned, for type-2 dielectric capacity change vs. temperature is highly variable and non linear.
Capacitors built with type-2 dielectric are usually called high-voltage capacitors, that should not be confused with the RF power capacitors discussed before, though their appearance may sometimes be similar and despite they are both commonly referred to as doorknob-type capacitors, as they appear like small barrels with axial wire leads or screw terminals. The design of high-voltage capacitors is optimized for operation at very high Vn, even up to 250kV. They can also withstand a fairly high irms, while their Pm is usually limited. They typically feature very high and non-linear temperature coefficients (up to 70,000 ppm/°C), a higher dissipation factor (up to 0.015) and a remarkable capacitance variation with DC voltage. Picture below shows typical high-voltage capacitors.

Generally speaking, high-voltage capacitors look taller and sometimes even fatter than RF power capacitors, but it is not always easy to distinguish. A capacitor higher than 5,000 pF having a Vn of 10kV or more is most likely a high-voltage capacitor.
It should be noted that wire-lead disc-type capacitors with a voltage specification higher than some 500V and with capacity higher than 1,000pF are commonly built with type-2 dielectric. Therefore they have characteristics similar to the high-voltage capacitors.
In summary, high-voltage capacitors can also be used in RF circuits, but their usage shall be limited to applications not requiring a high stability of capacitance, and very high pr; conversely they can sustain significant irms values.
That said, let us consider a very well-known product, i.e. the Centralab doorknob ceramic capacitors (now manufactured by ITT-Jennings). They come in several sizes, the most common one being that of models 850 and 858. Model 850 (now renamed HT50), shown below, is an RF power capacitor with capacity varying from 10pF to 500pF, temperature coefficient varying from NPO to N4700, and a Vn of 5kV or 7.5kV. For what concerns In, it seems reasonable to assume that In coincides with the specification they give for maximum current at 30 MHz, which ranges from 7A to 10A depending on capacity. For what concerns the maximum reactive power (Pm), they do not use this term, but they indicate maximum current (Im) at selected frequencies; e.g., for the 100 pF unit, 3.6A @ 1 MHz and 6.8A @ 10 MHz.

Model 858 (now renamed HT58) looks very similar to model 850, the main apparent difference being the fact that the ceramic wall is just a bit thicker, but it has higher capacity, i.e. 1,000pF (a 500pF unit was also available, but now presumably no longer produced). The Vn rating is the same of the 850 model (i.e. either 5kV or 7.5kV), In is 5.6A, and Im is 1.6A @ 1MHz or 3.8A @ 10MHz. Model 858 utilizes type-2 ceramics (type X5V) and should therefore be regarded as a high-voltage capacitor.
It should be noted that other Centralab doorknob capacitors (i.e. the smaller 853-, 854- and 855-types, the larger 857-type and the king-sized 859-type are all RF power capacitors). Therefore model 858, which is probably the most used type, constitutes an exception to the rule

FROM THEORY TO PRACTICE
Let us now consider a typical RF power amplifier (a grid-driven neutralized tetrode) and discuss the type of capacitors that are needed for the functions. Picture below shows a simplified schematic diagram of the amplifier, in which all components irrelevant for the issues to be discussed have purposely been omitted.

Only fixed capacitors are of our interest:

Cpb is the plate bypass capacitor;

Cnf is the fixed neutralization capacitor;

Csb is the screen bypass capacitor;

Cc is the coupling capacitor;

Cpf is the plate fixed padding capacitor (if needed), in parallel to the plate variable capacitor Cpv;

Caf is the antenna fixed padding capacitor (if needed), in parallel to the antenna variable capacitor Cav.
It would obviously be possible to utilize RF power capacitors everywhere, but such a choice could be an overkill in cases where a high voltage capacitor can do the job equally well. As a matter of fact RF power capacitors with the required capacitance and Vn may be unavailable, too expensive or too bulky. In conclusion, it is worthwhile to individually address the various capacitors, with the aim to understand their respective requirements. The plate bypass capacitor Cpb shall be selected with a Vn safely dimensioned with regard to vdc only, as vrms will anyway be very low, the purpose of Cpb being just that of quenching RF on the HV line. This is the reason why Cpb shall feature a low Xc across the whole frequency range, and shall then have quite a high value (at least 1,000 pF, or better more than 10,000 pF for 80- or 160-meter operation). High-voltage capacitors can well be used; on the one hand they offer such high capacitance values in conjunction with the required Vn, on the other hand their limited tolerance and high TCC do not represent an issue for bypassing purposes. With reference to the previously shown graphs, high capacitance will tend to shift the inter-condition boundaries much to the left, but their actual position will depend on the capacitor In, Vn and Pm specifications. For instance, with a 15,000 pF Morgan model-858 capacitor (Vn = 3.5kV, In = 15A, Pm = 1.5kVAr) having an Xc of some -6 ohm at 1.8 MHz, the 15A limit corresponds to an hypothetical pr of about 1.3kVAr, which is lower than Pm. This means that, for said parameters and across the whole ham radio frequency range, Cpb would stay in condition C (ohmic-limited condition). This fact is however not too meaningful as, in practice, irms should be not too high, unless the RFC inductance is undersized. Withn a proper RFC design, much smaller capacitors than the

Morgan model-858 taken above as example can typically be used, even wire-lead disc-type capacitors could do, but verify first that RFC inductance is properly dimensioned at the lowest frequency range, otherwise you may have unpleasant surprises.
The fixed neutralization capacitor Cnf shall have a very high Vn, it being subjected to about the sum of vdc and vprf. To stay on the safe side, select a capacitor with Vn higher than twice the plate voltage. Only RF power capacitors can be used for this application, a low TCC being required for stable operation of the neutralization bridge. The Cnf capacitance is usually very low (just a few pF), a fact causing the shift of the inter-condition boundaries much to the right. For instance, assuming a vdc of 2.3kV and a vrms of 1.7kV, with a 2 pF Morgan model-10 capacitor (Vn = 4kV, In = 2A, Pm = 4kVAr) having an Xc of some -2,600 ohm at 30 MHz, the pr corresponding to the vrms of 1.7kV would be some 1.1KVAr, that is lower than Pm. This means that, with said parameters and across the whole ham radio frequency range, Cpb would stay in condition A (discharge-limited condition). The above mentioned type-10 capacitor would however not be the best possible choice for our case, as its Vn of 4kV offers no margin with respect to vdc + vrms, while its In and Pm would be more than adequate.
The screen bypass capacitor Csb does not require a very high Vn because of the rather low screen DC voltage (usually 300 to 500V, or slightly more); furthemore vrms will also be low because the purpose of Csb is just that of quenching RF on the screen. It should be noted that Csb shall feature a very low Xc across the whole frequency range, much lower than that of Cpb, a very effective grounding effect being needed for the screen. Therefore Csb shall have a very high value (e.g. in the range of several tents on nF for 80- or 160-meter operation). Only high-voltage capacitors can practically offer such high capacitance values; on the other hand tolerance and TCC are not important for bypassing purposes. With such high capacity values, it is very likely that Csb will stay in condition C (ohmic-limited condition) over the whole ham-radio frequency range, though this will also depend on the particular capacitor characteristics. Differently from Cpb, Csb could be subjected to a rather high irms, due to the plate-to-screen capacity which, at 30 MHz, could cause an irms of up to 5A, or even more, to flow through Csb. Among the possible solutions, a widely used approach for Csb is that of using several (e.g. 10 or more) high voltage capacitors in parallel, with a suitable Vn and each sharing a fraction of the total current. This also yields the advantage of a low-inductance path to ground. For instance, using sixteen 1000pF capacitors with Vn = 1kV and In = 0.5A could be adequate even for 160-meter operation, and with such arrangement it could even be possible to use wire-lead disc-type capacitors, though not the small-size types.

The coupling capacitor Cc can be selected with a Vn safely dimensioned with regard to vdc only, it being possible to assume that vrms will not be very high over the whole frequency range. For instance, even an undersized Cc of 500 pF would develop, for a typical 2,500W-class amplifier, a vrms of only 250V or so at 1.8 MHz, a value that is small compared to the plate voltage that could typically be some 3kV. It is not uncommon to see designs in which capacitance is too low for Cc to act as a real RF short circuit over the whole frequency range; on the other hand this is not a problem because, if Cc has a non-negligible Xc, this can be compensated for by a different adjustment of the pi-network elements. It should however be noted that the value of Xc can make a difference in selecting the type of Cc to be used. To make the distinction more clear, let us consider to an extreme case, i.e. that of a high-power amplifier in which the irms flowing through Cc is 7A (such a high value could correspond to either an extremely high power amplifier, or an amplifier with a low plate impedance, e.g. seveal low-voltage tubes in parallel). Two capacitance values are considered for Cc:

Cc = 470pF, to which an Xc of some -190 ohm corresponds at 1.8 MHz. The resulting pr is about 9.2kVA, a value that a high-voltage capacitor would hardly tolerate. An RF power capacitor, such as the Morgan model-832 (Vn = 5kV, Vn = 11A, Pm = 20kVAr) would instead be adequate. It is easy to determine that Cc would stay in condition B (dielectric-limited condition).

Cc = 15,000pF, to which an Xc of some -6 ohm corresponds at 1.8 MHz. The resulting pr is about 290VA, a value that a high-voltage capacitor, such as the Morgan model-858 (Vn = 3.5kV, In = 15A, Pm = 1.5kVAr) can instead tolerate. In this case Cc would stay in condition C (ohmic-limited condition).
In conclusion, suitably sized high-voltage capacitors can be used for Cc, provided that capacitance is high enough. The irms actually flowing through Cc will not be far from the DC plate current.
The plate fixed padding capacitor Cpf shall withstand a high vrms, i.e. the DC plate current times plate impedance. The actual irms will depend on the Cpv value, it increasing for low Cpv values, for a maximum equal to Q multiplied by the DC plate current. Cpf must have a low TCC as any capacity change would result in circuit de-tuning. For even better stability, it would also be appropriate to oversize it, so that temperature will not significantly rise. This means that Cpf shall be an RF power capacitor. Let us again refer to a 2,500W amplifier with Q=12 in which no Cpv is used. From pi-network formulas, it can be easily calculated that Cpf shall have Xc = -120 ohm, and will be subjected to vrms = 1.9kV and irms = 15.8A. The resulting pr is very high (30kVAr), and this is another reason to exclude the use of high-voltage capacitors. A high value of pr is a characteristic common to all capacitors forming part of resonating circuits. An adequate capacitor for a 14-MHz amplifier would be the Morgan model-849, with Cpf = 100pF, In = 18A, Pm = 55kVAr. In this case Cpf would stay in condition C (ohmic-limited condition).
The antenna fixed padding capacitor Caf shall withstand a fairly moderate vrms, i.e. the square root of 50 times the RF power. The actual irms will depend on the Cav value, it increasing for low Cav values, up to a maximum of about the same maximum current as Cpf. Considerations similar to those exposed for Cpf are also valid with regard to Caf, that must also be an RF power capacitor. Referring again to a 2,500W amplifier with Q=12 in which no Cav is used, Caf shall then have Xc = -25 ohm, and will be subjected to vrms = 350V and irms = 14.2A. The resulting pr of about 5kVAr is not as high as in the case of Cpf. An adequate capacitor for a 14-MHz amplifier would be the Morgan model-839, with Caf = 470pF, In = 18A, Pm = 55kVAr. In this case Caf would stay in condition C (ohmic-limited condition).

To: TS-520_820_530_830@yahoogroups.com
From: TS-520_820_530_830@yahoogroups.com
Date: Wed, 6 Aug 2014 05:05:41 -0700
Subject: RE: [TS-520_820_530_830] Fixed Padder RF Caps

Hi Dave:

Yes even though C10 is the only failed one I will replace C9, C10, and C26 while I am there.

I ordered the Type 2 disc ceramics from Mouser just in case I cant find Type 1 subs.

Mouser also had couple of the Type 1 500vdc values for the Loading capacitor padders. They did not have all the ones for the Loading cap and had no Type 1s for the 3 Tank capacitor padders.

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If you look at the old ARRL handbooks of the 60s and study the transmitter and amplifier projects you will see as Jan N8CBX mentions that all the pi-network padders are speced for high voltage mica caps.

I will contact you off list to continue this subject.

Appreciate all who responded.

Terry K9TW

49496. Re: Fixed Padder RF Caps

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-06 15:28:36 UTC
From: Chris Kepus
Topic: 49484 Message: 49496

Terry,

Did you look at RF Parts' NPO selection?

http://www.rfparts.com/capacitors/capacitors-cerdisk.html

73,

Chris

W7JPG

"Any day above ground is a good day"

[Non-text portions of this message have been removed]

49497. Re: [TS-520_820_530_830] Fixed Padder RF Caps

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-06 15:55:33 UTC
From: Jan Servaites
Topic: 49484 Message: 49497

Terry,
Well, the RF caps have greater current capabilities (at the HV levels).
What if you paralleled two/three regular HV caps? I wonder if one can
get the higher current flow in that way?
Jan N8CBX

49498. Re: [TS-520_820_530_830] Fixed Padder RF Caps

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-06 22:14:07 UTC
From: wagstw46@...
Topic: 49484 Message: 49498

Jan

That is certainly an old trick used in taming LC type VFO oscillator drift.

However it was most commonly done by paralleling up small value NPO (Class 1) caps and not regular Class 2 disc ceramics. Pretty common if you needed 30pf to use two 15pf or three 10 pf in parallel. Lower RF current thru each one meant lower temperature rise in the dielectric and less capacitance change so the LC oscillator tank resonance isnt shifting.

So yes the current would split among the paralleled Class 2 caps, but still not sure about the dielectric heating effect. Caps might suffer acute failure or have reduced life span, but might still exhibit considerable capacitance shift.

Biggest problem I see with using Class 2 caps in the Hybrids (even several paralleled) is physical space and shift in capacitance value with dielectric heating from the RF current. This means as they heat up the capacitance value is changing and would be de-tuning the tank. So if they didnt fail but would shift appreciably in capacitance that would be no good.

If I cant find the Class 1 disc ceramics I will probably see if I can fit DM-19 silver micas in the stack space under the Load cap. RF Parts and other vendors have a variety of these in 500wvdc rating.

I really appreciate all the help folks are trying to provide by asking if I have looked at various vendors, but I did quite a bit of Google homework regards the vendors and surplus market. What I was really asking is if any one out there who has replaced the fixed padders and restored rig to factory design would share their source for the factory original Class 1 disc ceramics. I am thinking now that not too many members have experienced loss of a padder? That is of course a good thing.

I personally have had bad experience with using Class 2 disc ceramics as RF padders although have not tried to parallel any. They of course can be used in RF bypass application where change in capacitance value isnt a big deal. Have to think about paralleling them some more.

So I think we have covered this subject pretty well. If I come up empty Jan I will get back to you and see what you have in way of silver mica caps.

Thanks to All

Terry K9TW

---In TS-520_820_530_830@yahoogroups.com, <jservaites@...> wrote :

Terry,
Well, the RF caps have greater current capabilities (at the HV levels). What if you paralleled two/three regular HV caps? I wonder if one can get the higher current flow in that way?

Jan N8CBX

49499. Re: Fixed Padder RF Caps

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-06 22:35:37 UTC
From: 22hornet
Topic: 49484 Message: 49499

Check out Allied Electronics they stock much, much more than Mouser.

Ken de W7ITC

Sent from my iPad

49500. Re: 830s was working fine now no ALC, wiggle driver RX almost dies

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-07 03:13:22 UTC
From: n612dw@...
Topic: 49432 Message: 49500

Tnx Joe/Terry,

sorry for not replying. I just got back from vacation and have the entire RF board out now and in my paws. Wasnt as difficult as i thought given the destructions you guys provided.

There most definitely is a pin completely loose from the trace of the Driver tube (Pin 2 - Grid 1), a textbook cold/broken solder connection. I should have taken a picture of it.

Fixed that up and washed the bottom of the board with flux remover (it was full of flux) and that made it much easier now to see the quality of all the other connections on the board. Touched up all the Driver tube socket connections and few other suspects. Took a q-tip with some cleaner and then applied some De-Ox-It with another q-tip for all the molex pins.

anything else on this board now that i have it out that i should look at or change while i have it out ?

i am still considering replacing the socket, since there still is some foreign material in some pins that i cant really get out, but i also cant tell if its a problem or not. the broken solder joint was certainly a problem, so i hope that's it.

i wish i hadnt thrown-out/misplaced my wire-wrap tools, thought i'd never use them again - but would be nice for the driver board pin to rf board connection.

-bob, w9zv

49501. Re: [TS-520_820_530_830] Re: 830s was working fine now no ALC, wiggle driver RX almost dies

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-07 05:20:47 UTC
From: Wes Will
Topic: 49432 Message: 49501

On 08/06/2014 10:13 PM, n612dw@... [TS-520_820_530_830] wrote:

> Touched up all the Driver tube socket connections and few other suspects.
...
> anything else on this board now that i have it out that i should look at or change while i have it out ?

By "touched up" do you mean you just re-heated and re-flowed the old solder on there pin to board connection?

I think you would do MUCH better if you used a solder sucker or even solder-wick braid and removed ALL the solder (carefully, so as not to over-heat the board and lift any traces!!) from the bad connections, clean it up well with DeOxit and a touch of a good flux, and then with new solder re-heat and complete the connection.

While you have it already out and in hand, why do it any way that might necessitate that you do it AGAIN??

Old solder and re-flowing hasn't given me the best showing for repairs on older equipment, not since I was a kid fixing junked tube radios for SWL or junk TV's to re-sell. It has always worked best and lasted longer to completely clean the old stuff out and sweat in new. Good conductivity is pretty much guaranteed, then.

How about it, guys? Am I too far off the beam here?

--
Wes Will
N9KDY

49502. Re: [TS-520_820_530_830] Re: 830s was working fine now no ALC, wiggle driver RX almost dies

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-07 12:14:11 UTC
From: wagstw46@...
Topic: 49432 Message: 49502

I agree most of the time not easy to get solder to reflow especially on molex pins. They oxidize. I remove all old solder and lightly sand to brite metal and resolder and they wet very nicely then.

I have a Jonard WDUD-2224 wire wrap tool. Can still buy them. Try Web-tronics. I never use it. I cut back to fresh conductor. Clean the post to brite metal and solder the lead wire to the post with just one wrap.

As to other things to look at:

1. Inspect all molex pins under good lite and magnification. I like to plug in the mating connector so it seats the pins in the body and wiggle connector body back and forth side ways and can see the pins floating. I have extra set of plugs and jumpers. If you cant do that then just do best inspection that you can.

2. Good time since you can orient the vertical bandswitch boards better (in horz plane so the cleaner stays in place longer) to apply de-oxit to all the wipers and contacts with artist brush and/or wetted Q-tip. Make sure after exercising the bandswitch that you realign the shaft properly. Just be careful not to press on any of the contacts or bend any. Just need to work the de-oxit into them. You are working in close spacing. I rotate shaft to access the wiper and apply deoxit to it and then rotate both directions to distribute it. You can also spray it in at this time but more wasteful and need to blow out with canned air. I prefer to get it in there and let is soak a little which it will do better with boards in horz plane.

3. Measure Driver tube screen grid divider resistors R36/R37at this time as I find them commonly drifted very high and/or open. Especially R36 100k can be open.

4. Measure Cathode resistor R35 and R41.

5. Clean the rotor shaft wipers of VC-1, VC-2 and VC-3

6. Put a drop of deoxit on the VCO cable plug tip and socket.

Terry K9TW

49503. Re: [TS-520_820_530_830] Re: 830s was working fine now no ALC, wiggle driver RX almost dies

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-07 12:54:27 UTC
From: wagstw46@...
Topic: 49432 Message: 49503

I forgot one other bad actor.

If you experience low drive on just 15 and 17 meters it is can be due to bad L36 Driver tube plate choke. Need a LCR bridge to measure it. It is 470uhy and it changes in value over time.

If you can test it now is good time to access it with RF board out. If no way to measure then do a visual. It is small green plastic can and sometimes can see circumferential band of dark brown discoloration about 1/4 way from top down.

Terry K9TW

49504. Re: 830s was working fine now no ALC, wiggle driver RX almost dies

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-07 14:43:07 UTC
From: n612dw@...
Topic: 49432 Message: 49504

hi guys, i put the board back in this morning before i read this, but the choke visually looks clean, no evidence of discoloration etc. as i was looking for any of this sort of stuff on visual inspection when i had it out.

put the board back in, and POOF... I now have copious amounts of ALC and all is again well. RX and TX fixed.

It turned out to be the bogus solder connection on the driver grid pin as the primary problem. Some other molex pins were touched up as well. Now all the driver pins are nice and shiny with proper solder connections. Temperature cycling probably cracked the joint over time.

the whole inside of the radio is very clean, even the final cage shows no evidence of heat related stress. very pleased with the purchase.

I will check it out on some other bands, but it was working fine on all the bands when it went bad on all the bands, so I suspect i am ok with L36 as that problem sounds to be band specific.

Hints and Kinks - i find that using medium sized stainless medical forceps really helps to grab the molex connectors when inserting/removing them without putting any stress on the wires. Their aggressive tooth pattern on their jaws really grab the connector body well. Dont get the ones that are too small, as the jaws are narrow and it puts stress on the body in a small area. Spread it out, get the moderately sized ones. Mandatory part of your bench toolset.

this stuff is really kinda fun to work on and rewarding when fixed.

tnx for the help all. This is an enormously useful resource for those of us (fewer and fewer it seems) who like to keep 'em running and dont mind getting your hands into the box and learn something along the way.

-bob, w9zv

49505. Getting one of my TS-520 back on the Air

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-07 20:07:57 UTC
From: 22hornet@...
Topic: 49505 Message: 49505

I have a new VFO cable coming from eBay today so I can get one of My TS-520's back on the air again I set it aside last spring when I purchased a Ten Tec Omni VI plus. It is going back to Ten Tec to get a tune up. in the mean time The Venerable TS-520 gets fired up again. This time it stays at the operating station. There is nothing like the sound of vacuum tube finals.

Ken de W7ITC

49506. Size of the plastic snap rivets

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-08 23:29:09 UTC
From: 22hornet@...
Topic: 49506 Message: 49506

I have a place to get the plastic snap rivets that hold the cover on for the VOX controls on my TS-520 but I have no idea what size to get does anyone know?

Ken de W7ITC

49507. Solved--no ALC indication when in TUNE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-09 02:29:16 UTC
From: Nate Bargmann
Topic: 49507 Message: 49507

Last week I mentioned in the thread about the new to me TS-520SE that I was having difficulty tuning it up for transmit. In fact, I would get no ALC indication at all. I am happy to report that this is resolved.

I had the chance to go through the alignment procedure in the owners manual and found a number of things were off so I did it a second time and the receiver is working very well. As it turned out, the transmitter could be tuned up when in the CW WIDE position. My coworker, W0MDN, astutely noted this which escaped my notice. Eventually, I was able to net the crystals on the Carrier board and after netting the CW crystal correctly (3.395 MHz on TX, and it settles at 810 Hz below that on RX) everything is working just fine.

Now I just need to make some contacts with it.

73, Nate

49508. Re: [TS-520_820_530_830] Size of the plastic snap rivets

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-09 02:18:02 UTC
From: Nate Bargmann
Topic: 49506 Message: 49508

* On 2014 08 Aug 19:34 -0500, 22hornet@... [TS-520_820_530_830] wrote:

> I have a place to get the plastic snap rivets that hold the cover on
> for the VOX controls on my TS-520 but I have no idea what size to get
> does anyone know?

The TS-520SE I bought had some in it but they were very loose. I ordered a pair from K4EAA and they fit snug and keep the door from rattling.

http://www.k4eaa.com/parts.htm

73, Nate

49509. Re: Solved--no ALC indication when in TUNE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-09 20:51:43 UTC
From: wagstw46@...
Topic: 49507 Message: 49509

Nate:

I dont want to be picky or rain on your parade, but if I understand your post correctly the problem with the Tune loading mode is not "resolved" and everything is not "working just fine" as you state.

All KW hybrids can be loaded in Tune mode and in CW mode. If you cant load in Tune mode the radio is not working per design and for newer people with little experience loading the radio in CW mode means that you are really using a "work around" which requires some heightened sensitivity to short off resonance key down times.

If you still cannot load the radio in Tune mode it is likely that R5/R6 56k ohm screen grid divider resistors on the HV unit board are bad. There is a reason why KW went to the expense of designing and installing the Tune circuit. I suggest you ask your friend to measure the resistors and if open or drifted in value to replace them. Always replace both even if only one checks bad.

Lastly, I am unfamiliar with a CW "wide position" mode?

Terry K9TW

49510. Re: [TS-520_820_530_830] Re: Solved--no ALC indication when in TUNE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-10 02:39:28 UTC
From: Nate Bargmann
Topic: 49507 Message: 49510

Hi Terry.

I have the TS-520SE with the narrow CW filter installed. The second switch from the left (immediately to the right of the SEND/REC switch) is the WIDE/NARROW CW filter selection.

Before I netted the CW crystal to 3395 kHz when in TX having the switch in NARROW would not pass the CW signal in either TUN and CW mode. With the switch set to WIDE, the CW carrier was passed in both TUN and CW mode.

I am using TUN mode to tune up the radio into my dummy load. This now works with the filter selection switch in either in the WIDE or NARROW positions, which it should.

I have plenty of ALC indication and everything is solid with good signal reports. Thanks for the hint, if I see issues related to the ALC in the future and the CW oscillator is on frequency, then I will look at those resistors.

73, Nate

49511. Re: [TS-520_820_530_830] Re: Solved--no ALC indication when in TUNE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-10 12:40:38 UTC
From: wagstw46@...
Topic: 49507 Message: 49511

OK did not realize radio had been modified.

Perhaps you mentioned that in previous post and I missed it?

I didnt want you to live with a radio that had no Tune function when easy to fix.

Terry K9TW

49512. Re: [TS-520_820_530_830] Re: Solved--no ALC indication when in TUNE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-10 12:58:55 UTC
From: Nate Bargmann
Topic: 49507 Message: 49512

```
* On 2014 10 Aug 07:41 -0500, wagstw46@... [TS-520_820_530_830] wrote:
> OK did not realize radio had been modified.

It's not been modified to my knowledge or observation. The TS-520SE has
the WIDE/NARROW switch in place of the HEATER switch on prior '520
models.

73, Nate
```

49513. Re: [TS-520_820_530_830] Re: Solved--no ALC indication when in TUNE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-10 17:32:59 UTC
From: wagstw46@...
Topic: 49507 Message: 49513

Nate:

I am sorry. I dont know how I missed it is an SE. I need to slow down and pay attention to detail. I guess this is why they dont let me "drive" the nuclear plant anymore!

73s
Terry K9TW

49514. Re: [TS-520_820_530_830] Re: Solved--no ALC indication when in TUNE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-10 17:37:26 UTC
From: Mark Gilger
Topic: 49507 Message: 49514

Terry,

What did you decide about attending the Findlay
hamfest next month on September 7th?

Mark, WB0IQK

At 01:32 PM 8/10/2014, you wrote:
>
>
>Nate:
>
>I am sorry. I dont know how I missed it is an
>SE. I need to slow down and pay attention to
>detail. I guess this is why they dont let me "drive" the nuclear plant anymore!
>
>73s
>Terry K9TW
>

49515. DD-103

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-11 07:46:04 UTC
From: beeson.neil@...
Topic: 49515 Message: 49515

Life is so much easier now. I brought a DD-103 Freq meter and fitted it on saturday to my TS-520SE. 10 minutes from unpack to calibrated and running. The lead plugs straight into the rear VFO plug. I looked for a DG-5 but they're rare as hens teeth and in my opion over priced when you do find one and the DD-103 is a good second choice and not bad price wise. I've posted a couple of pics of it running.
No more using a second radio or waiting for some body to talk on any freq.
73
Neil
VK6NSB

49516. Re: [TS-520_820_530_830] DD-103

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-11 14:00:16 UTC
From: Daniel Curry
Topic: 49515 Message: 49516

Neil,

I have a DG-5 and a TS-520. I need a DK-5 kit for the TS-520 which makes hen's teeth as common as rain drops in a hurricane. Without the DK-5 kit, this DG-5 is practically useless to me.

Can you tell me more about the DD-103 and that VFO plug? I'm currently using an external VFO, as it does not seem to drift as much.

Thanks,

Daniel

On 8/11/2014 2:46 AM, beeson.neil@... [TS-520_820_530_830] wrote:
>
> Life is so much easier now. I brought a DD-103 Freq meter and fitted
> it on saturday to my TS-520SE. 10 minutes from unpack to calibrated
> and running. The lead plugs straight into the rear VFO plug. I looked
> for a DG-5 but they're rare as hens teeth and in my opion over priced
> when you do find one and the DD-103 is a good second choice and not
> bad price wise. I've posted a couple of pics of it running.
>
> No more using a second radio or waiting for some body to talk on any freq.
>
> 73
>
> Neil
>
> VK6NSB
>
>

49517. Re: DD-103

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-11 14:22:34 UTC
From: va7pwk@...
Topic: 49515 Message: 49517

Very nice, thanks for posting the images. Yeah, I sometimes have debated asking my contact exactly what frequency he's on. Get on the air! Last night I was on 20 meters (as I usually am whenever I can find the time) and I heard a guy from Catalina, Spain talking about his TS-520. He was coming across 57 and suddenly the band must have shifted because it all went quiet.

I'm not sure what you meant by "waiting for somebody to talk on any freq"?

49518. Re: [TS-520_820_530_830] DD-103

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-11 14:55:48 UTC
From: w5rkl@...
Topic: 49515 Message: 49518

The Kenwood DK-5 kit manual is available for downloading at

www.n6wk.com/kenwood/DK-520-Install-Instructions.pdf

It appears, after studying the manual that the circuit might be rather easily reproduced using components/enclosures and wiring found on ebay, Mouser, and possibly your junk box.

The transistor, 2SC460(B) crosses to an NTE-85 which are easy to find. You might find a small metal enclosure that could be used in place of the factory enclosure.

Just a thought.

73
Mike W5RKL

49519. Re: [TS-520_820_530_830] Size of the plastic snap rivets

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-11 23:01:25 UTC
From: 22hornet@...
Topic: 49506 Message: 49519

Thanks much just what I was looking for.

Ken W7ITC

49520. Re: DD-103

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-12 07:54:27 UTC
From: beeson.neil@...
Topic: 49515 Message: 49520

ESP http://www.electronicspecialtyproducts.com/index.html

http://www.electronicspecialtyproducts.com/index.html

ESP http://www.electronicspecialtyproducts.com/index.html DIGITAL ACCURACY FOR VINTAGE RECEIVERS AND TRANSCEIVERS VFO 1000 / FT-101

View on www.electronicspecia... http://www.electronicspecialtyproducts.com/index.html
Preview by Yahoo

This is the company's web site. The lead is made up to suit what ever radio you use it with and plugs into the remote vfo plug. They fit heaps of different types of radios, hope this info helps.
73
Neil
VK6NSB

49521. Re: DD-103

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-12 08:00:35 UTC
From: beeson.neil@...
Topic: 49515 Message: 49521

ESP http://www.electronicspecialtyproducts.com/index.html

http://www.electronicspecialtyproducts.com/index.html

ESP http://www.electronicspecialtyproducts.com/index.html DIGITAL ACCURACY FOR VINTAGE RECEIVERS AND TRANSCEIVERS VFO 1000 / FT-101

View on www.electronicspecia... http://www.electronicspecialtyproducts.com/index.html
Preview by Yahoo

This is the web site for the DD-103, any body interested can look it up. On the 520's the lead plugs into the external vfo plug and it draws its power from there. They make the units to suit heaps of different radios. I hope this info helps
73
Neil
VK6NSB

49522. Re: DD-103

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-12 08:08:37 UTC
From: beeson.neil@...
Topic: 49515 Message: 49522

va7pwk Here in West Aust we use 7.093 as a call channel so I used to wait for somebody to talk then tune them in. Or going to a common used freq and waiting for anybody to talk to get right on the freq. The DD-103 takes the guess work out. 73
Neil
VK6NSB
ps Don't forget to sign your replies please

49523. Re: DD-103

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-12 14:11:01 UTC
From: bsa0791@...
Topic: 49515 Message: 49523

I purchased a dd 103 off ebay about a year ago at a very good price. Very accurate and I use it on my 520. Pretty awesome display..
brian kb4mng n nc

49524. Re: DD-103

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-13 09:14:44 UTC
From: adrian@...
Topic: 49515 Message: 49524

A digital display would be nice to have for my TS520SE, but I must say that the dial is highly accurate used in conjunction with the 25kHz calibration signal. You may need some simple test gear to align the marker oscillator frequency first, but I found mine was spot on anyway.

49525. TS830s speech proccesor problem

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-13 14:17:02 UTC
From: Terry
Topic: 49525 Message: 49525

Hi,
The proc does work when switched in but it reduces the power out to nearly half what is is with no proc.
Can't seem to find anything on this problem anywhere, any ideas?
The radio does drive fine with no proc, I'm stumped to what this problem is.
Dont think it's a allighnment problem.
Thanks,
MW0ZUS

Sent with AquaMail for Android
http://www.aqua-mail.com

49526. Re: [TS-520_820_530_830] TS830s speech proccesor problem

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-13 21:14:39 UTC
From: Mike W5RKL
Topic: 49525 Message: 49526

Terry (MW0ZUS),

Have you actually checked the processor alignment by following the processor alignment step 34 page 40 in the TS-830 service manual? That should be the first place to before assuming the problem is not caused by the processor alignment.

I don't mean any disrespect but if you haven't done that then you are guessing the problem is not related to a processor alignment. It's obviously not a speech amplifier problem since the 830 works fine with the processor turned OFF.

73
Mike W5RKL

On 8/13/2014 9:17 AM, Terry coldfusion@... [TS-520_820_530_830] wrote:
>
> Hi,
> The proc does work when switched in but it reduces the power out to
> nearly
> half what is is with no proc.
> Can't seem to find anything on this problem anywhere, any ideas?
> The radio does drive fine with no proc, I'm stumped to what this
> problem is.
> Dont think it's a allighnment problem.
> Thanks,
> MW0ZUS
>
> Sent with AquaMail for Android
> http://www.aqua-mail.com
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

49527. Re: DD-103

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-14 11:17:01 UTC
From: Brian Allen
Topic: 49515 Message: 49527

You're right, I have the dd 103 but the marker signal is sufficient. Just really cool having a digital display!

brian kb4mng

49528. What is an R-820 receiver worth???

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-17 00:27:33 UTC
From: greg.anders@...
Topic: 49528 Message: 49528

I have an R-820 and wonder what they go for "if I decide to sell it"...
Its mint.
Any one know a broad price range for this beautiful receiver???

Greg

49529. Re: What is an R-820 receiver worth???

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-17 11:42:43 UTC
From: Brian Allen
Topic: 49528 Message: 49529

Works, mint condition, Imo about $1K. That price was a while back when I was considering purchasing one. In that condition you have a very nice, sought after piece of equipment.

Brian KB4MNG NC

49530. Re: What is an R-820 receiver worth???

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-17 16:04:14 UTC
From: ke5ftf@...
Topic: 49528 Message: 49530

I sometimes go to Ebay & do a Search on the item & then click on Sold Auctions...Gives you a base price to work with...Bob

49531. Re: [TS-520_820_530_830] Re: What is an R-820 receiver worth???

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-17 18:41:37 UTC
From: Ian Joesph Parkinosn
Topic: 49528 Message: 49531

The R820 250 Hz cw filter attentuates the signal too much for my liking. The rx cost about the same as the ts 820 in the UK. Why not go for a modern rx? The 820 hasn't FM, 6 metres, weighs a ton, dry joint problems. Not even general coverage. Wouldn't put its value more than $500. I guess I've paid about $400 in my time.

Ian.

On Sun, Aug 17, 2014 12:42 BST Brian Allen bsa0791@... [TS-520_820_530_830] wrote:

>Works, mint condition, Imo about $1K. That price was a while back when I was considering purchasing one. In that condition you have a very nice, sought after piece of equipment.
>
>Brian KB4MNG NC

49532. Hybrid Legacy Net Update (August 17, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-17 18:28:37 UTC
From: Mark Gilger
Topic: 49532 Message: 49532

Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm
The net started it's existence on November 1st,
2012. The yearly check-in totals are posted at
the bottom of this message. It showed we had a
10% increase in our Saturday check-ins and an 8%
on Sunday as compared to the 2012 check-ins.

The Saturday net was run by me, WB0IQK. There
were 14 stations checking in under good band
conditions. We had the following number of radios checking in.

3 running TS-520(x)
3 running TS-530(x)
2 running TS-820(x)
2 running TS-830S
0 running TS-511
0 running 599 twins

The rest were running non Kenwood hybrid equipment.

I was running my TS-940S with an L4B amplifier.

The Sunday net was run by me, WB0IQK. There were
15 stations checking in under good band
conditions. We had the following number of radios checking in.

4 running TS-520(x)
1 running TS-530(x)
3 running TS-820(x)
0 running TS-830S
0 running TS-511
1 running 599 twins

The rest were running non Kenwood hybrid equipment.

I was running my TS-820s twins (TS-820S + R820).

We have been having several people checking in
regularly with their TS-430, TS-440, and
TS-940□s, which of course is not a hybrid,
although over 30+ years old. Everyone is welcome

as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a net control station, please send me an email. Currently it's just myself, WB2KNR and WB0SGA. I would like to get several more. If we do, we can alternate so everyone might be on a 3-4 week rotation. It's a lot of fun and a good way to make sure you station is optimized.

For anyone that has not heard, we have a new web site that WB4HFN is hosting. He currently has a very nice site for Drake, Collins and Heathkit and now Kenwood Hybrids. Good quality manuals plus sale flyers and brochures will be found here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 ☐ Oct. 2012 Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins
November 2013, Saturday☐s net total = 94, Sunday☐s total = 85
December 2013, Saturday☐s net total = 87, Sunday☐s total = 103
January 2014, Saturday☐s net total = 71, Sunday☐s total = 82
February 2014, Saturday☐s net total = 80, Sunday☐s total = 85
March 2014, Saturday☐s net total = 82, Sunday☐s total = 73
April 2014, Saturday☐s net total = 64, Sunday☐s total =43
May 2014, Saturday☐s net total = 66, Sunday☐s total = 35
June 2014, Saturday☐s net total = 43, Sunday☐s total = 59
July 2014, Saturday☐s net total = 24, Sunday☐s total = 46
August 2014, Saturday☐s net total = 44, Sunday☐s total = 41 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

49533. Re: [TS-520_820_530_830] Re: What is an R-820 receiver worth???

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-17 21:45:48 UTC
From: W5RKL
Topic: 49528 Message: 49533

A price of $1,000 for an R-820 is way too high. I suspect that price was found on ebay and quite possibly was pushed high from supporters of the seller or the seller using a different eBay user name. Yes I'm well aware that this method of selling/pricing is illegal on eBay but that does not stop those who still do it!

I mean no disrespect but I never believed in the use of the phrase "near mint condition" that is used a lot by hams/people selling old ham/electronic gear.

The R820 has the same PC board and PC board foil run and plug pin problems the other KW hybrids have. The R820 does not cover the entire HF 2 to 30Mhz receive and VHF 6 and 2 meter band as modern day transceivers do. Although it's quite possible to modify the R820 SW bands, 49M/31M/25M and 16M bands, to cover the WARC bands, I would not recommend this to most new hams today since it could easily require significant changes in the SW band circuits. As for what I think a good price for a used R820 is? Again I mean no disrespect but I wouldn't pay more than $385 for an R820 in the condition stated.

Now, having said all that, there are people/hams who have large amounts of disposable income who would spend significantly more than $385 for a used R820 in the condition stated, quite possibly more than $500 but I'm not one of those people even if I had the disposable income to spare.

Good luck if you decide to sell the R820.

73
Mike W5RKL

On 8/17/2014 6:42 AM, Brian Allen bsa0791@... [TS-520_820_530_830] wrote:
> Works, mint condition, Imo about $1K. That price was a while back when
> I was considering purchasing one. In that condition you have a very
> nice, sought after piece of equipment.
>
> Brian KB4MNG NC
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

49534. Re: [TS-520_820_530_830] Re: What is an R-820 receiver worth???

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-18 02:25:04 UTC
From: Gerald Purvis
Topic: 49528 Message: 49534

Your price may be a little high, it just depends on who wants to add to their collection of old but usable radios. I have one that goes with the TS820,still use it sometimes. I also have a few 520S and 530S and SP. All of these work and are used whenever I find time to get on the air. The one that gets the most use is the 530S.I saw a set of 599 radios that were going for around 999 on ebay. Anyway just my $.02 for what it's worth..
Vic NB4T in Alabama

Moderator's note:
Message shortened, unnecessary text removed
73
Mike W5RKL
Group Moderator

49535. Re: What is an R-820 receiver worth???

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-18 16:18:16 UTC
From: Brian Allen
Topic: 49528 Message: 49535

Couple of years ago, it was hard to find one for sale on ebay and if you did, you paid a kings ransom. From what I understand, the R820 receiver is much better than the TS820 and 830. I would consider purchasing a r 820 if I could get it below $400.

Brian KB4MNG

49536. Looking for Instruction Manual for SP-820

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-18 18:28:57 UTC
From: ktschwab@...
Topic: 49536 Message: 49536

I am looking for the Instruction Manual for the Kenwood SP-820 External Speaker. All I can seem to find on the Internet, is the Service Manual which I did print. The Instruction Manual might give information that is not included in the Service Manual. 73, Karl, KO8S

49537. RE: [TS-520_820_530_830] Looking for Instruction Manual for SP-820

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-18 18:41:00 UTC
From: Joe Wolfe
Topic: 49536 Message: 49537

Ya know, The Kenwood SP-940 is basically the same…instead of the buttons being on the bottom of the speaker, they are on the right side, but if memory serves, the functions are all the same…hi 1 filter, hi 2 filter, Low, and input A or B. Oh, and the phone jack for a headset bypass. THAT manual can be had on MODS.DK. for free!

Joe – W7RKN

From: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com]
Subject: [TS-520_820_530_830] Looking for Instruction Manual for SP-820

I am looking for the Instruction Manual for the Kenwood SP-820 External Speaker. All I can seem to find on the Internet, is the Service Manual which I did print. The Instruction Manual might give information that is not included in the Service Manual. 73, Karl, KO8S

49538. RE: [TS-520_820_530_830] Looking for Instruction Manual for SP-820

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-19 14:15:58 UTC
From: ktschwab@...
Topic: 49536 Message: 49538

Thanks Joe, I went to ModsDK and printed the SP-940 owners manual, two pages, hi hi. This gives me the info I was looking for. But, if someone has the same info for the SP-820, I would like to see that too. Thanks again, Karl, KO8S

49539. running

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-19 14:20:06 UTC
From: James Pruett
Topic: 49539 Message: 49539

My ts 520s it runs it doesn't drift, does any one have any ideas for an easy fix

49540. RE: [TS-520_820_530_830] Looking for Instruction Manual for SP-820

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-19 18:01:27 UTC
From: James Scribner
Topic: 49536 Message: 49540

Karl this is what I have on SP-820 Service Manual. Not sure where in will wind up as using Gmail to receive and post. If you don't see it post and I'll send it to your email later.

[Non-text portions of this message have been removed]

49541. RE: [TS-520_820_530_830] Looking for Instruction Manual for SP-820

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-19 18:02:31 UTC
From: James Scribner
Topic: 49536 Message: 49541

OOPs forgot folks!
W5SWM-Jim

49542. ts 830s vox delay

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-19 15:05:55 UTC
From: on6cn@...
Topic: 49542 Message: 49542

hello,, vox delay is working but stil to fast for cw (for me)when the pot is fully clockwise the delay is stil to quick,
wonder if someone has a modification for this to make it longer in time before it drops in and out
wonder if someone nows how long it should hold in cw before it trips in seconds.
maybe its off specifications in my tranceiver.
thanks for reading

Moderator's Note:
ON6CN you need to add a proper signature to the end of ALL your message posted on this group!! If you do not know what a proper signature is, read the messages sent to you when your membership was approved.

73
Mike W5RKL
Group Moderator

49543. Re: [TS-520_820_530_830] running

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-19 19:46:56 UTC
From: Wes Will
Topic: 49539 Message: 49543

On 08/19/2014 09:20 AM, James Pruett jpr3232819@...
[TS-520_820_530_830] wrote:
> My ts 520s it runs it doesn't drift, does any one have any ideas for an easy fix

???

O...K....

I'M going to guess that you mean your 520S is drifting.

Drifting HOW? Transmit? Receive? Both?

If English is not your first language, no sweat, we'll try to make this work. Try to use more words, and describe your problem in some detail. This is not Morse, the maximum length of the "transmission" isn't critical.

Also, are you at all experienced in working on or with electronics, including high voltages? (By Neptune's Yamsack I never expected to actually have to ASK that of any hams with a license higher than "Novice," but here we are. "That's Progress"??") Do you have the basic tools for this sort of job? VTVM (preferred) or other sort of voltmeter, an oscilloscope, frequency meter, that sort of thing?

Next, have you searched the mailing list web site on yahoo? Look for

520S and drift

in the "Search Messages" (or whatever the exact wording is, I can't recall at the moment, bit it is pretty obvious what the little box means), and you should come up with a LOT of posts about this subject.

Read up, see if any of them sound like your problem and perhaps try to do what they did to correct it. Get back to us if you figure it out, maybe someone else will be helped down the road. (It's the raison d'etre for this list's existence, after all.)

Also, if you have NOT gotten the documents available for the radio (User's Manual, Service Manual, schematics, etc.) off of the club members' web sites, those are all free for the downloading, and you need to get them to help fix (and just use) the rig. Study the schematics and use the 'Circuit Description' section of the service and user's manuals to get a feel for which does what inside the radio. It's good to know what is going on, to be able to get the most out of your radio.

Try your post again, look into the resources I mentioned on the yahoo and various list members' sites, and then we'll see what we can do.

Regards,

--
Wes Will
N9KDY

49544. Re: [TS-520_820_530_830] Looking for Instruction Manual for SP-820

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-19 20:10:03 UTC
From: Karl Schwab
Topic: 49536 Message: 49544

Hi Jim; I didn't get anything from your email, but, I did find and print the SP-820 Service Manual on line, so I am good with that. What I am looking for is the owners manual for the SP-820. I received an email to my query suggesting that I use the owners manual for the Kenwood SP-940 which is similar. I found this 2 page sheet (owners manual) on the Web site http://www.mods.dk/ This sheet gave me the info that I was looking for, but I would still like to have the owners manual for the SP-820. Thanks Jim for your help, 73, de Karl, KO8S

On Tuesday, August 19, 2014 2:01 PM, "James Scribner swpthg@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Karl this is what I have on SP-820 Service Manual. Not sure where in will
wind up as using Gmail to receive and post. If you don't see it post and
I'll send it to your email later.

[Non-text portions of this message have been removed]

Posted by: James Scribner <swpthg@...>

Yahoo Groups Links

https://info.yahoo.com/legal/us/yahoo/utos/terms/

49545. Re: ts 830s vox delay

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-19 21:59:34 UTC
From: wagstw46@...
Topic: 49542 Message: 49545

I dont know about your basic electronics background or ability to read schematic?
If you can look at schematic of audio board you should see that the VOX Delay is controlled by Q13 discharging capacitor C49 which is a 3.3uf cap.

It is a simple RC circuit with the resistance element coming from VR5 250K ohm delay pot and fixed resistor R69 47k ohm. With VR-5 set for max resistance you then have total of 297k ohms. RC time constant is then approx .984sec or 984 millisec which is close enough to call it 1 second of delay. With VR5 set for minimum resistance then RC time constant is 3.3uf x 47k ohm or approx .155sec or 155 millisec of delay.

One way to get longer time constant would be to change out C49 from 3.3uf to:

4.7uf = 1.4 seconds
5.6 uf = 1.66 seconds
6.8uf = 2.0 seconds (that I would think would be sufficient long time?)

Tantulums typically used for timing application, but electrolytic could be used. I just used standard value electrolytics for the above calcs.

Terry K9TW

49546. Re: ts 830s vox delay

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-19 22:44:48 UTC
From: wagstw46@...
Topic: 49542 Message: 49546

I forgot to mention if you have a first generation TS830 your audio board may be a little different regards VOX Delay. If you have a C48 and C49 in series then come back and we can discuss some more. Early audio board had two delay time constants one for CW and one for SSB modes. This was controlled by an additional transistor switch Q14. If you dont have a Q14 and C48 then changing value of C49 will work as I have noted.
Terry K9TW

49547. Re: running

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-20 11:35:06 UTC
From: Brian Allen
Topic: 49539 Message: 49547

My 520s drifted quite bad. I cleaned the tuning capacitor with deoxit and that took care of the problem. Hope if fixes your problem

Brian KB4MNG

49548. Re: ts 830s vox delay

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-20 14:00:52 UTC
From: wagstw46@...
Topic: 49542 Message: 49548

Carlos
To close this thread out I will describe the changes you need to make to your early generation TS830 AF board.

1. Fold AF board over to access foil side.
2. Remove C48 and C49. Leave Q14 in place as it will be isolated and no longer function.
3. Install a 6.8uf electrolytic or tantalum in the old C48 location. Connect the positive lead to the junction of D11 cathode and Q13 collector. Connect the negative lead to the pc pad where the negative lead of original C49 was located.
4. Becareful soldering over the radio so you dont drop any solder flash into the radio. Becareful clipping the leads off the newly installed 6.8uf cap so they dont fly away into the radio and not be recovered.
5. Fold the board back over in place and install the retaining screws.

You should have a VOX delay now with max of approx 2 seconds and the dual time constant feature has been defeated.

I believe that this change was first published in one of the early International Radio Kenwood Users Group Newsletters. I had it in my TS-830 notes, but dont know for certain the source document. I should also mention I have not implemented this change and have no experience with it. What I do know is Kenwood did eliminate Q14 and C48 in the 2 million series radios. All the AF boards that I have seen have the board traces and pads for it, but the function was eliminated.

Terry K9TW

49549. Re: running

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-20 17:15:34 UTC
From: n7iqv@...
Topic: 49539 Message: 49549

James,As other posters have mentioned, we don't know just how experienced you may be with "older" rigs. The first thing I thought about was... "How long do you have the rig powered on, when you see this drifiting?" If you throw the power switch and start sending right away, you may wish to add "go get some coffee or tea" after you apply power. Tube rigs do take a little time to stabilize from a "cold start".

Hope you don't have serious problems..sometimes, simple things work wonders.

Good luck, and please keep us posted.

John/N7IQV

49550. Re: ts 830s vox delay

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-20 14:35:43 UTC
From: on6cn@...
Topic: 49542 Message: 49550

terry thanks for the all info about this problem!
match apriciated here.
73 carlos on6cn

49551. TS-520 29.1 Mhz

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-20 20:22:18 UTC
From: gdesler@...
Topic: 49551 Message: 49551

I recently obtained a TS-520. It appears to work fine on 20 m and 40 m, the only two bands (antennas) I have tried.When trying a to tune into a dummy load on 29.1 I noticed no noise in receive. I tried the 25 kHz marker which works fine on all other bands, nothing on 29.1.

I'm hoping it's a tuning issue. I have a 50 MHz o-scope and hope to get to this after a short trip.

Any thoughts or advice?
73
Gary
AA7YO

49552. Re: [TS-520_820_530_830] TS-520 29.1 Mhz

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-20 20:59:25 UTC
From: Mike W5RKL
Topic: 49551 Message: 49552

Gary,

I can't say for sure but it's possible your problem may be caused by an 11 meter modification. The TS-520 is and has been a prime candidate for "shade tree technician 11 meter modifications" applied to a TS-520.

You can look on the HET OSC crystal board, the crystals are mounted on the rotary switch (see the TS-520/520S/520SE service manual for details on finding the HET OSC crystal board), to determine if any of the 10 meter crystals have been changed so the 520 will operate on the 11 meter band or the frequency range from above 27.405Mhz (channel 40) to the bottom of the 10 meter band, 28.0Mhz.

There are 3 factory installed 10 meter crystals to cover 28.0, 28.5, and 29.7Mhz bands. The crystal frequencies for each of these bands are as follows:

28.0 - 36.895Mhz
28.5 - 37.395Mhz
29.1 - 37.995Mhz

If your 520 has been modified to operate on the 11 meter band or the frequency range from 27.405Mhz to 28.0Mhz, a different crystal will be required. For example, if your 520 has been modified to operate on channel 1 and above, a different HET OSC crystal for one of the 3 10 meter bands will be required.

If you are going to do any servicing of your TS-520 you will need the service manual for the model of 520 you have, there are "3" different models of 520s. You will also need to have and be able to properly use test equipment, and have experience troubleshooting using test equipment. You did not state what level of electronic knowledge, troubleshooting and repair experience you have, only that you own a 50Mhz scope.

73
Mike W5RKL

On 8/20/2014 3:22 PM, gdesler@... [TS-520_820_530_830] wrote:
>
> I recently obtained a TS-520. It appears to work fine on 20 m and 40
> m, the only two bands (antennas) I have tried.When trying a to tune
> into a dummy load on 29.1 I noticed no noise in receive. I tried the
> 25 kHz marker which works fine on all other bands, nothing on 29.1.
>
> I'm hoping it's a tuning issue. I have a 50 MHz o-scope and hope to
> get to this after a short trip.

>
>
> Any thoughts or advice?
>
> 73
>
> Gary
>
> AA7YO
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

49553. Re: [TS-520_820_530_830] TS-520 29.1 Mhz

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-20 21:50:18 UTC
From: Wes Will
Topic: 49551 Message: 49553

On 08/20/2014 03:59 PM, Mike W5RKL w5rkl@... [TS-520_820_530_830] wrote:
> Gary,
>
> I can't say for sure but it's possible your problem may be caused by an
> 11 meter modification. The TS-520 is and has been a prime candidate for
> "shade tree technician 11 meter modifications" applied to a TS-520.

If you dig around in the list archives you will find a posting from me with step-by-step instructions on how to unscrew the inscrutable and get your 520 back to being a ham rig instead of an un-type-accepted unlawful chicken-band. (This is not an FCC-approved rig for 11 meters. The mod is not type-accepted by the Feds.)

I think I included the contact information for getting the correct crystals. It's a very simple mod, and then you just run through the alignment procedure in the manual. Bob's your Uncle, Fanny's yer Aunt shortly thereafter.

I would take the time to look at all of the slugs in the tuning coils while I was in there, too. Make sure none of them are cracked or anything. There are a lot of posts in the list archive on yahoo about getting a stuck slug loose, using silicone lubes or DeOxit or a hot pencil soldering iron, loads of things. Look into that if any of the slugs are stuck. Be sure to use a non-metallic (plastic or composite) tuning slug tool. Metal ones affect the tuning, and it changes as soon as you pull the tool away from the coil. Wood, plastic, composite, whatever non-conductive, non-reactive material you can find. There are sets of these tools available for a few dollars from various electronics tool suppliers. You need some.

DO take the alignment instructions exactly as they are given in the manual. It makes a difference which one goes first, as they affect each other. Tuning one will change another one, so you do them in the order given to take that into account.

DON'T try to brute-force the tuning slugs into turning while doing the alignment. Not only do you risk cracking the ferrite tuning slug, but you can deform and even destroy the coil itself, and then you're into a mess getting a new one on there.

(Replacing the whole board becomes an option at that point, one highly-thought-of by people who have worked on these radios for a long time. Heeding their advice is recommended....)

--
Wes Will

N9KDY

49554. Kenwood Paint

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-21 18:41:04 UTC
From: Will Beattie
Topic: 225 Message: 49554

Maybe its "old hat" by now but can anyone advise me if its possible to obtain aerosol spray paint to finish off a Trio TS830S upper and lower casing.

Regards

Will / GM0HKS

49555. Re: Kenwood Paint

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-22 10:38:17 UTC
From: beeson.neil@...
Topic: 225 Message: 49555

THIS MIGHT BE WHAT YOU WANT
73
Neil
VK6NSB

KENWOOD DARK GRAY TRANSCEIVER PAINT TS520 TS820 TS830 http://www.ebay.com.au/itm/KENWOOD-DARK-GRAY-TRANSCEIVER-PAINT-TS520-TS820-TS830-/310746074614?pt=LH_DefaultDomain_0&hash=item4859e8cdf6&_uhb=1

http://www.ebay.com.au/itm/KENWOOD-DARK-GRAY-TRANSCEIVER-PAINT-TS520-TS820-TS830-/310746074614?pt=LH_DefaultDomain_0&hash=item4859e8cdf6&_uhb=1

KENWOOD DARK GRAY TRANSCEIVER PAINT TS5... http://www.ebay.com.au/itm/KENWOOD-DARK-GRAY-TRANSCEIVER-PAINT-TS520-TS820-TS830-/310746074614?pt=LH_DefaultDomain_0&hash=item4859e8cdf6&_uhb=1 KENWOOD DARK GRAY TRANSCEIVER PAINT TS520 TS820 TS830 in Consumer Electronics, Radio Communication, Parts & Accessories | eBay

View on www.ebay.com.au http://www.ebay.com.au/itm/KENWOOD-DARK-GRAY-TRANSCEIVER-PAINT-TS520-TS820-TS830-/310746074614?pt=LH_DefaultDomain_0&hash=item4859e8cdf6&_uhb=1
Preview by Yahoo

49556. Re: [TS-520_820_530_830] TS-520 29.1 Mhz

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-22 13:53:31 UTC
From: w5rkl@...
Topic: 49551 Message: 49556

Gary,Have you made any progress diagnosing the problem you are experiencing with your 520 set to 29.1?

73
Mike W5RKL

49557. Re: [TS-520_820_530_830] TS-520 29.1 Mhz

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-22 14:40:08 UTC
From: Gary Desler
Topic: 49551 Message: 49557

Not yet
I am on vacation
I have read some of the past texts on 11m crystal changes
Will tackle this on my return
Thanks
73
Gary AA7YO

Sent from Gary's IPhone

> On Aug 22, 2014, at 6:53, "w5rkl@... [TS-520_820_530_830]"
<TS-520_820_530_830@yahoogroups.com> wrote:
>
> Gary,Have you made any progress diagnosing the problem you are experiencing with your 520 set to 29.1?
>
> 73
> Mike W5RKL
>
>

49558. Kenwood Hybrid Net Update (August 24, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-24 18:52:31 UTC
From: Mark Gilger
Topic: 49558 Message: 49558

Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

The net started it's existence on November 1st, 2012. The yearly check-in totals are posted at the bottom of this message. It showed we had a 10% increase in our Saturday check-ins and an 8% on Sunday as compared to the 2012 check-ins.

The Saturday net was run by me, WB0IQK. There were 14 stations checking in under good band conditions. We had the following number of radios checking in.

2 running TS-520(x)
1 running TS-530(x)
5 running TS-820(x)
5 running TS-830S
0 running TS-511
0 running 599 twins

The rest were running non Kenwood hybrid equipment.

I was running my TS-940S with an L4B amplifier.

The Sunday net was run by me, WB0IQK. There were 12 stations checking in under good band conditions. We had the following number of radios checking in.

4 running TS-520(x)
1 running TS-530(x)
3 running TS-820(x)
3 running TS-830S
0 running TS-511
1 running 599 twins

The rest were running non Kenwood hybrid equipment.

I was running my TS-820s twins (TS-820S + R820).

We have been having several people checking in regularly with their TS-430, TS-440, and TS-940□s, which of course is not a hybrid,

although over 30+ years old. Everyone is welcome
as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a
net control station, please send me an email.
Currently it's just myself, WB2KNR and WB0SGA. I
would like to get several more. If we do, we can
alternate so everyone might be on a 3-4 week
rotation. It's a lot of fun and a good way to
make sure you station is optimized.

For anyone that has not heard, we have a new web
site that WB4HFN is hosting. He currently has a
very nice site for Drake, Collins and Heathkit
and now Kenwood Hybrids. Good quality manuals
plus sale flyers and brochures will be found
here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 □ Oct. 2012 Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins

November 2013, Saturday□s net total = 94, Sunday□s total = 85
December 2013, Saturday□s net total = 87, Sunday□s total = 103
January 2014, Saturday□s net total = 71, Sunday□s total = 82
February 2014, Saturday□s net total = 80, Sunday□s total = 85
March 2014, Saturday□s net total = 82, Sunday□s total = 73
April 2014, Saturday□s net total = 64, Sunday□s total =43
May 2014, Saturday□s net total = 66, Sunday□s total = 35
June 2014, Saturday□s net total = 43, Sunday□s total = 59
July 2014, Saturday□s net total = 24, Sunday□s total = 46
August 2014, Saturday□s net total = 62, Sunday□s total = 53 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

49559. Looking for connector (R599/T599 or R820)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-24 20:15:49 UTC
From: kg6yv@...
Topic: 49559 Message: 49559

I need a connector for an R820 receiver to do transceiver with an 820S.
I believe it is the same male connector as found on the transceiver cable for the R599/T599. If anyone has one or knows where I might find one please reply....

Thanks

Greg
KG6YV

49560. Re: [TS-520_820_530_830] Looking for connector (R599/T599 or R820)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-24 21:21:59 UTC
From: Mark Gilger
Topic: 49559 Message: 49560

Greg,
Good luck. those are hard to find. What I did was
just get some DB-25 connector pins and put those
on the end of the wire that I used and stuck them
into the appropriate hole on each plug. It's been
that way for several years now.

Mark, WB0IQK

At 04:15 PM 8/24/2014, kg6yv@... [TS-520_820_530_830] wrote:
>
>
>I need a connector for an R820 receiver to do transceiver with an 820S.
>
>I believe it is the same male connector as found
>on the transceiver cable for the R599/T599. If
>anyone has one or knows where I might find one please reply....
>
>Thanks
>
>
>Greg
>
>KG6YV
>

49561. Re: [TS-520_820_530_830] Looking for connector (R599/T599 or R820)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-24 21:39:56 UTC
From: Ian Joesph Parkinosn
Topic: 49559 Message: 49561

Greg, is there a connector at each end ? One being a 9 pin plug looks like it will fit a b9a tube socket
The other end fits the ts 820 a more bulky version of rs 232 type, but isn't a rs 232.
Ian g3yrq.

On Sun, Aug 24, 2014 21:15 BST kg6yv@... [TS-520_820_530_830] wrote:

>I need a connector for an R820 receiver to do transceiver with an 820S.
> I believe it is the same male connector as found on the transceiver cable for the R599/T599. If anyone has one or knows where I might find one please reply....
>
> Thanks
>
>
> Greg
> KG6YV

49562. Re: [TS-520_820_530_830] Looking for connector (R599/T599 or R820)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-24 21:46:44 UTC
From: Chris Robinson
Topic: 49559 Message: 49562

I am looking for the power connector for the TS-520 myself. I need two of them, one for an AC cable the other for a DC cable.

On Sun, Aug 24, 2014 at 2:39 PM, Ian Joesph Parkinosn cd40105@... [TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>
> Greg, is there a connector at each end ? One being a 9 pin plug looks like
> it will fit a b9a tube socket
> The other end fits the ts 820 a more bulky version of rs 232 type, but
> isn't a rs 232.
> Ian g3yrq.
>
> ----------
> On Sun, Aug 24, 2014 21:15 BST kg6yv@... [TS-520_820_530_830] wrote:
>
> >I need a connector for an R820 receiver to do transceiver with an 820S.
> > I believe it is the same male connector as found on the transceiver
> cable for the R599/T599. If anyone has one or knows where I might find one
> please reply....
> >
> > Thanks
> >
> >
> > Greg
> > KG6YV
>
>
>

--

Mr.C.Robinson
73 DE KF6NFW

49563. Re: [TS-520_820_530_830] Looking for connector (R599/T599 or R820)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-25 00:30:12 UTC
From: Jim Lamanteer
Topic: 49559 Message: 49563

GREG ARE YOU LOOKING FOR A D.C CABLE TO RUN THE 520 IN THE CAR?? IF SO I HAVE ONE BRAND NEW ONE I CAN SELL YOU. LET ME KNOW JIMMY. WB2KNR

From: "Chris Robinson kf6nfw@... [TS-520_820_530_830]"
<TS-520_820_530_830@yahoogroups.com>
To: TS-520_820_530_830@yahoogroups.com
Sent: Sunday, August 24, 2014 5:46 PM
Subject: Re: [TS-520_820_530_830] Looking for connector (R599/T599 or R820)

I am looking for the power connector for the TS-520 myself. I need two of them, one for an AC cable the other for a DC cable.

On Sun, Aug 24, 2014 at 2:39 PM, Ian Joesph Parkinosn cd40105@... [TS-520_820_530_830]
<TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Greg, is there a connector at each end ? One being a 9 pin plug looks like it will fit a b9a tube socket
>The other end fits the ts 820 a more bulky version of rs 232 type, but isn't a rs 232.
>Ian g3yrq.
>
>---
>On Sun, Aug 24, 2014 21:15 BST kg6yv@... [TS-520_820_530_830] wrote:
>
>>I need a connector for an R820 receiver to do transceiver with an 820S.
>> I believe it is the same male connector as found on the transceiver cable for the R599/T599. If anyone has one or knows where I might find one please reply....
>>
>> Thanks
>>
>>
>> Greg
>> KG6YV
>
>

--

Mr.C.Robinson
 73 DE KF6NFW

49564. repair of VFO-230

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-25 04:42:51 UTC
From: ve3pie@...
Topic: 49564 Message: 49564

My VFO-230 is doing strange things. It sometimes freezes, or may indicate an incorrect frequency, or may be missing some of the sides of the 7 segment display producing incomplete numbers, and sometimes other strange things. The only way to fix it is to turn off the TS-830S, unplug the AC power of the VFO for 5 minutes (not just a few seconds), then replug AC power to the VFO, and then finally turn on the rig.
I have no technical knowledge to fix this. Who can I send this to for repair?
thanks, Fred VE3PIE

49565. Re: [TS-520_820_530_830] repair of VFO-230

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-25 05:52:51 UTC
From: Gary Appel
Topic: 49564 Message: 49565

I had a similar problem with a VFO-230.

The bad news was that the microprocessor was failing.

The worst news is that I was not able to find a replacement.

Gary WA0TFB

From: mailto:TS-520_820_530_830@yahoogroups.com
Sent: Sunday, August 24, 2014 6:42 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: [TS-520_820_530_830] repair of VFO-230

My VFO-230 is doing strange things. It sometimes freezes, or may indicate an incorrect frequency, or may be missing some of the sides of the 7 segment display producing incomplete numbers, and sometimes other strange things. The only way to fix it is to turn off the TS-830S, unplug the AC power of the VFO for 5 minutes (not just a few seconds), then replug AC power to the VFO, and then finally turn on the rig.

I have no technical knowledge to fix this. Who can I send this to for repair?

thanks, Fred VE3PIE

49566. Re: repair of VFO-230

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-25 07:49:14 UTC
From: pmarkavage@...
Topic: 49564 Message: 49566

One thing to remember is that the VFO-230 always has to have AC power. If you have a master AC switch that shuts off all your AC when you're not operating, the next time you turn everything on, the VFO will indicate random numbers, partial number segments, incorrect frequencies, or other weird stuff and be generally useless. The general reset for this is, turn the 830 off, disconnect the VFO cable, wait a minute, plug the cable back in, and turn the 830 back on. This happens to me all the time because, when I'm not at the operating position, all the AC to everything is shut off.
Pete, wa2cwa

49567. OT: F.S. Manual

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-25 03:17:45 UTC
From: hamdriver66@...
Topic: 49567 Message: 49567

Recently came across an old manual for a Kenwood TR7400A two meter rig and have no need for it. If any of our dedicated Kenwood users are interested, I will ship the manual for $15.00, postage paid. The manual has block diagram and full schematic included. It is complete and in fair shape for it's age. Photo available. Contact Mike K4KJC at ARRL.net. Thanks and 73.

49568. Re: repair of VFO-230

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-25 12:49:34 UTC
From: w5rkl@...
Topic: 49564 Message: 49568

Fred,You didn't specify this so I'll ask. I mean no disrespect but do you have the VFO-230 operator's manual? If not then you can download it free from my website

W5RKL http://www.w5rkl.com

W5RKL http://www.w5rkl.com This website is constantly under construction. 73 Mike W5RKL

View on www.w5rkl.com http://www.w5rkl.com
Preview by Yahoo

When the home page comes up, click on "Manuals, Mods, and Docs" link at the top of the page. Scroll down to the Kenwood Remote VFO section and click on the VFO-230 link. The manual is in pdf format and will download to your computer.

Go to page 6 and you will see the recommended action Pete WA2CWA is referring to.

73
Mike W5RKL

49569. Re: repair of VFO-230

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-25 14:00:48 UTC
From: ve3pie@...
Topic: 49564 Message: 49569

Hi Mike,
Yes I know what it said it the manual, but it happens very often. I always keep it plugged in to AC.
when I had my original TS-830 and VFO many years ago it never happened.
Fred

49570. Re: [TS-520_820_530_830] Looking for connector (R599/T599 or R820)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-25 22:55:24 UTC
From: kg6yv@...
Topic: 49559 Message: 49570

Thanks Mark,

That sounds like an excellent workaround. I'll get some DB25 pins...

Cheers,

Greg

49571. Re: What is an R-820 receiver worth???

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-25 22:59:13 UTC
From: kg6yv@...
Topic: 49528 Message: 49571

The R-820 IS much better than either the TS 820S or the 830.... More controls to fine tune, a 10db per selection attenuator from 10-40db, better noise figure, the triple conversion is super especially when using the notch which is @50khz...

Sweet,

I'm going to pair mine with my TS 820S and probably will never use the 820 receiver again...

Greg

49572. Selling Kenwood hybrids...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-25 23:04:29 UTC
From: ke5ftf@...
Topic: 49572 Message: 49572

I have decided to sell all of my Kenwood hybrids parts this fall...I have 30 radios in chasis with some parts removed...
I have part bins for the 520, 520S, 530S, 820, 820S & the 830S...

I plan on taking an inventory in September after it cools down a bit...

Please don't ask me for a price at this time, it will take time to inventory...
I will provide sharp pictures with the inventory...

We are downsizing to a motor home so our space is limited...

I will offer to this hybrid group first & then to QTH.com on their Classifieds...

We are located in Wichita Falls, TX (120 miles NW of Dallas)

I was thinking that a group may get together for the purchase once I price it all out...
Must be picked up in Wichita Falls, TX, no mailing or shipping...

Many Thanks,
Bob
KE5FTF

49573. RE: [TS-520_820_530_830] repair of VFO-230

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-25 23:32:29 UTC
From: fpath fpath
Topic: 49564 Message: 49573

Fred,

The issue your finding is most likely the caps have dried or have leaked. I have 3x VFO230, and only one has displayed this problem, which was fixed with cap replacement, crappy job to do but at least it fixes the issue.

73ss

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: TS-520_820_530_830@yahoogroups.com
Date: Sun, 24 Aug 2014 19:52:51 -1000
Subject: Re: [TS-520_820_530_830] repair of VFO-230

I had a similar problem with a VFO-230.

The bad news was that the microprocessor was failing.

The worst news is that I was not able to find a replacement.

Gary WA0TFB

From: mailto:TS-520_820_530_830@yahoogroups.com
Sent: Sunday, August 24, 2014 6:42 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: [TS-520_820_530_830] repair of VFO-230

My VFO-230 is doing strange things. It sometimes freezes, or may indicate an incorrect frequency, or may be missing some of the sides of the 7 segment display producing incomplete numbers, and sometimes other strange things. The only way to fix it is to turn off the TS-830S, unplug the AC power of the VFO for 5 minutes (not just a few seconds), then replug AC power to the VFO, and then finally turn on the rig.

I have no technical knowledge to fix this. Who can I send this to for repair?

thanks, Fred VE3PIE

49574. [TS-520_820_530_830] repair of VFO-230

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-26 07:12:39 UTC
From: Chris Kepus
Topic: 49564 Message: 49574

My VFO-230 hasn't exhibited any of those symptoms.yet. Should it start acting up, is there some way to differentiate the symptoms such that one could conclude the problem is curable by replacing caps that "have dried or have leaked"?. Versus the scenario of replacing caps only to find the problem is the microprocessor?

Chris

W7JPG

"Any day above ground is a good day"

[Non-text portions of this message have been removed]

49575. Re: [TS-520_820_530_830] Looking for connector (R599/T599 or R820)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-26 14:46:25 UTC
From: kg6yv@...
Topic: 49559 Message: 49575

Hi Ian,

Yes, that is the cable. It has a 9 pin connector on one end to plug into the TS 820S remote VFO plug. The other connector (hard to find one) is a 16 pin rectangular connector that plugs into the back panel of the R-820

Greg
KG6YV

49576. Re: Looking for connector (R599/T599 or R820)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-26 16:28:13 UTC
From: w5rkl@...
Topic: 49559 Message: 49576

Creg, Did you find the 16 pin plug for your R820 you were looking for? I have the 16 pin transceive plug that's used to connect the R599 receiver to the T599 transmitter, brand new with hood and strain relief. Contact me off group at:

w5rkl at yahoo dot com

73
Mike W5RKL

49577. Re: Looking for connector (R599/T599 or R820)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-26 16:44:30 UTC
From: w5rkl@...
Topic: 49559 Message: 49577

Greg,I found another 16 pin R599/T599 plug with hood and strain relief. I used it to control my R599 muting when used with a Heathkit SB-401 transmitter. It's in excellent physical condition with all hardware.

Let me know if you are interested. See previous post for my email address.

73
Mike W5RKL

49578. Re: [TS-520_820_530_830] repair of VFO-230

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-26 17:10:39 UTC
From: Gary Appel
Topic: 49564 Message: 49578

I can only speak for my experience.

Shortly after buying the VFO-230 locally here, it started acting up, not tuning correctly, digits displaying incorrectly. I probed the digital signals on the microprocessor and found one of the signals that communicated with the peripheral extenders was out of spec.
I eventually cut the pin to make sure that it was not being loaded down with any external circuitry – no help. As I was testing the output levels continued to degrade.

I would suggest that putting a scope on the power supply voltages at the chips should tell you if there is a power supply problem. You shouldn’t see any ripple. A quick test for caps is usually to just bridge another cap over the existing ones. If the problem goes away, the caps should be replaced.

Gary, WA0TFB

From: mailto:TS-520_820_530_830@yahoogroups.com
Sent: Monday, August 25, 2014 9:12 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: [TS-520_820_530_830] repair of VFO-230

My VFO-230 hasn't exhibited any of those symptoms.yet. Should it start acting up, is there some way to differentiate the symptoms such that one could conclude the problem is curable by replacing caps that "have dried or have leaked"?. Versus the scenario of replacing caps only to find the problem is the microprocessor?

Chris

W7JPG

"Any day above ground is a good day"

[Non-text portions of this message have been removed]

49579. Re: [TS-520_820_530_830] repair of VFO-230

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-26 17:36:28 UTC
From: pmarkavage@...
Topic: 49564 Message: 49579

You said: "My VFO-230 hasn't exhibited any of those symptoms.yet. Should it start acting up, is there some way to differentiate the symptoms such that one could conclude the problem is curable by replacing caps that "have dried or have leaked"?. Versus the scenario of replacing caps only to find the problem is the microprocessor?
Chris W7JPG"

On the bottom of the VFO-230 service manual schematic, there is a set of scope traces that can help in isolating problems in the VFO. The schematic is part of the TS-830S/M service manual. The 3rd edition is the most up to date.

Pete, wa2cwa

49580. Re: [TS-520_820_530_830] repair of VFO-230

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-26 17:38:24 UTC
From: JR Neely
Topic: 49564 Message: 49580

Had the same problem

took it apart and noted the power supply components were damaged

Still apart - never got around to repairing it...

john

nr9o

Moderator's Note:
Message edited for length.

73
Mike W5RKL
Group Moderator

49581. Re: [TS-520_820_530_830] Looking for connector (R599/T599 or R820)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-26 21:15:50 UTC
From: Ian Joesph Parkinosn
Topic: 49559 Message: 49581

Ok Greg I have 1 or 2, But I can't find them. I'll keep on looking. Always thought the 9 pin plug was too good to scavenge. Pre e.bay days here in the UK, we had to depend on a newspaper named LOOT. The R820 sold for less than a 1/4 of its original cost. Not many advertised at that price. 73 Ian g3yrq.

On Tue, Aug 26, 2014 15:46 BST kg6yv@... [TS-520_820_530_830] wrote:

>Hi Ian,
>
> Yes, that is the cable. It has a 9 pin connector on one end to plug into the TS 820S remote VFO plug. The other connector (hard to find one) is a 16 pin rectangular connector that plugs into the back panel of the R-820
>
>
> Greg
> KG6YV

49582. Re: Looking for connector (R599/T599 or R820)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-26 21:29:46 UTC
From: kg6yv@...
Topic: 49559 Message: 49582

I sent you email directly Mike....

THanks

Greg

49583. Re: [TS-520_820_530_830] repair of VFO-230

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-26 22:03:07 UTC
From: ve3pie@...
Topic: 49564 Message: 49583

very interesting. I will certainly try to change the caps, and do that test.
Thanks, Fred
VE3PIE

49584. RE: [TS-520_820_530_830] repair of VFO-230

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-27 00:58:45 UTC
From: fpath fpath
Topic: 49564 Message: 49584

I have done the cap replacement on about 20 VFO230s and it has fixed the problem everytime. The VFO230 has had a couple of circuit upgrades, just like the 830 and 530 etc. I leave my VFOs connected and power applied to them all the time, never had an issue.

73s

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: TS-520_820_530_830@yahoogroups.com
Date: Tue, 26 Aug 2014 15:03:07 -0700
Subject: Re: [TS-520_820_530_830] repair of VFO-230

very interesting.
I will certainly try to change the caps, and do that test.
Thanks, Fred
VE3PIE

49585. RE: [TS-520_820_530_830] repair of VFO-230

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-27 04:47:27 UTC
From: ve3pie@...
Topic: 49564 Message: 49585

can you give me any information of the circuit upgrades for the VFO-230 ?
I want to tweek my TS-830S station as best as possible.
thanks, Fred VE3PIE

49586. RE: [TS-520_820_530_830] repair of VFO-230

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-27 05:14:28 UTC
From: ve3pie@...
Topic: 49564 Message: 49586

Hi Dave,
I checked the service manual. There are over 160 capacitors. Do you mean changing all of them?
what a huge job!
Fred VE3PIE

49587. Selling my TS-820 with digital display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-27 18:56:45 UTC
From: Joseph Loverti
Topic: 49587 Message: 49587

Hello All,

I've decided to sell my TS-820. It has been gone through by a professional tech that specializes in Kenwood hybrids and is in 100% excellent working order. Fresh finals and driver, 100W + output on all bands. Receiver has been aligned and performs flawlessly. While it was on his bench, the technician also made an awesome digital display unit for the rig as well. The read out are red LED's and it looks and WORKS perfectly. This radio has no issues and is ready to provide many years of reliable service. This is no project rig by any stretch. It's ready to go. I'm looking to finance some other items, so its time for a new home. I have an ad on QTH classifieds that has a picture of the front of the radio with display. I can provide many other hi-res photos for those interested. I'm asking $400 shipped to the lower 48. AK and HI will be actual shipping costs. Please contact me joeloverti@... or 414-418-9335 for more info or for other pics of the radio.

Thanks,

Joe
WS8X

49588. Re: [TS-520_820_530_830] Selling my TS-820 with digital display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-27 19:01:15 UTC
From: Daniel Curry
Topic: 49587 Message: 49588

Joe,

I would appreciate photos and details on that digital display.

On 8/27/2014 1:56 PM, Joseph Loverti joeloverti@...
[TS-520_820_530_830] wrote:
> Hello All,
>
> I've decided to sell my TS-820. It has been gone through by a professional tech that specializes in Kenwood hybrids and is in 100% excellent working order. Fresh finals and driver, 100W + output on all bands. Receiver has been aligned and performs flawlessly. While it was on his bench, the technician also made an awesome digital display unit for the rig as well. The read out are red LED's and it looks and WORKS perfectly. This radio has no issues and is ready to provide many years of reliable service. This is no project rig by any stretch. It's ready to go. I'm looking to finance some other items, so its time for a new home. I have an ad on QTH classifieds that has a picture of the front of the radio with display. I can provide many other hi-res photos for those interested. I'm asking $400 shipped to the lower 48. AK and HI will be actual shipping costs. Please contact me joeloverti@... or 414-418-9335 for more info or for other pics of the radio.
>
> Thanks,
>
> Joe
> WS8X
>
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>
> Yahoo Groups Links
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49589. Re: [TS-520_820_530_830] Selling my TS-820 with digital display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-27 23:33:53 UTC
From: Joseph Loverti
Topic: 49587 Message: 49589

Hi Daniel,

I'd be glad to provide you the additional photos of the rig. Can you give me a personal email address? I'm not sure if it would be proper for me to send them via the forum's address. The digital display for my TS-820 was created for me by a gentleman that professionally services Kenwood hybrids in NC. The radio belonged to my uncle who is now SK. He never was able to pass his general exam and therefore never used the radio for more than SWL-ing and listening around the bands. By the time he passed away, and the radio became mine, the rig was in need of some tuning up that I lacked the technical expertise to do myself. I sent the radio off to "Old Ham Dave" (google him) last year and he completely restored the radio to Kenwood specs. I also asked him about building me a display for it. He built one for my radio and it works terrific. I've been very pleased with it.

Please give me your personal email and I'll send pics your way. Please indicate if there are specific areas that you'd like to see in particular.

Thanks,

Joe

414-418-9335

On Aug 27, 2014, at 2:01 PM, Daniel Curry dcurry@... [TS-520_820_530_830] <TS-520_820_530_830@...m> wrote:

> Joe,
>
> I would appreciate photos and details on that digital display.
>
> On 8/27/2014 1:56 PM, Joseph Loverti joeloverti@...
> [TS-520_820_530_830] wrote:
> > Hello All,
> >
> > I've decided to sell my TS-820. It has been gone through by a professional tech that specializes in Kenwood hybrids and is in 100% excellent working order. Fresh finals and driver, 100W + output on all bands. Receiver has been aligned and performs flawlessly. While it was on his bench, the technician also made an awesome digital display unit for the rig as well. The read out are red LED's and it looks and WORKS perfectly. This radio has no issues and is ready to provide many years of reliable service. This is no project rig by any stretch. It's ready to go. I'm looking to finance some other items, so its time for a new home. I have an ad on QTH classifieds that has a picture of the front of the radio with display. I can provide many other hi-res photos for those interested. I'm asking $400 shipped to the lower 48. AK and HI will be actual shipping costs. Please contact me joeloverti@... or 414-418-9335 for more info or for other pics of the radio.
> >
> > Thanks,
> >

```
> > Joe
> > WS8X
> >
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49590. RE: [TS-520_820_530_830] Selling my TS-820 with digital display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-27 23:52:12 UTC
From: Joe Wolfe
Topic: 49587 Message: 49590

Joe.

To post images in any yahooGroup..Get a free account on www.PhotoBucket.com. Then simply upload your picture(s) there. Then to post them to the group, simply click on the thumbnail in PhotoBucket to enlarge it, and then click on 1 of the 4 options to the right f the image.I use EMAIL. That will automatically 'capture' the images' URL address. Then, you come back to the YahooGroup, create you post and then 'paste' the URL into your post. When we, as readers of your post click on the link, it takes us to that picture and we can view it. Like this:

http://s1255.photobucket.com/user/WA6RKN/media/Lassen_South_Entrancejpg_zpsc7729b19.jpg.html

Very easy to do and doesn't take up any space in the groups' data base!

Joe - W7RKN

Reno, Nevada

From: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com]
Subject: Re: [TS-520_820_530_830] Selling my TS-820 with digital display

Hi Daniel,

I'd be glad to provide you the additional photos of the rig. Can you give me a personal email address? I'm not sure if it would be proper for me to send them via the forum's address. The digital display for my TS-820 was created for me by a gentleman that professionally services Kenwood hybrids in NC. The radio belonged to my uncle who is now SK. He never was able to pass his general exam and therefore never used the radio for more than SWL-ing and listening around the bands. By the time he passed away, and the radio became mine, the rig was in need of some tuning up that I lacked the technical expertise to do myself. I sent the radio off to "Old Ham Dave" (google him) last year and he completely restored the radio to Kenwood specs. I also asked him about building me a display for it. He built one for my radio and it works terrific. I've been very pleased with it.

Please give me your personal email and I'll send pics your way. Please indicate if there are specific areas that you'd like to see in particular.

49591. Re: Looking for connector (R599/T599 or R820)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-28 00:50:41 UTC
From: greg anders
Topic: 49559 Message: 49591

Mike has been very kind and will send me a connector. My thanks to all including Ian for your generous help

in locating what I need.

Greg

KG6YV

49592. Re: [TS-520_820_530_830] Selling my TS-820 with digital display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-28 01:21:14 UTC
From: Nate Bargmann
Topic: 49587 Message: 49592

I take it this is yours?

http://swap.qth.com/segamida/1150240.jpg

73, Nate, N0NB

49593. Re: [TS-520_820_530_830] Selling my TS-820 with digital display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-28 03:57:12 UTC
From: Joe Loverti
Topic: 49587 Message: 49593

Yes. That's it...

-Joe

Sent from my electronic leash.

> On Aug 27, 2014, at 8:21 PM, "Nate Bargmann n0nb@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:
>
> I take it this is yours?
>
> http://swap.qth.com/segamida/1150240.jpg
>
> 73, Nate, N0NB
>
>

49594. RE: [TS-520_820_530_830] repair of VFO-230

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-28 10:30:36 UTC
From: fpath fpath
Topic: 49564 Message: 49594

Fred,

Sorry for delay. I only change the electrolytics, have to be careful with not over heating foils so you don't lift them and create other porblems. The power supply electros are the biggest problem. It is the same for most of this era of equipment, as example, the SM220 HV PIO caps are now starting to fail due to age, getting NOS is not always the best option, but thus far I have been very lucky to have some from the late 90's manufacture era which has solved the problems

73s

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: TS-520_820_530_830@yahoogroups.com
Date: Tue, 26 Aug 2014 22:14:28 -0700
Subject: RE: [TS-520_820_530_830] repair of VFO-230

Hi Dave,

I checked the service manual. There are over 160 capacitors. Do you mean changing all of them?

what a huge job!

Fred VE3PIE

49595. Station Grounding

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-29 01:54:57 UTC
From: jbdkz@...
Topic: 49595 Message: 49595

I have a TS-520SE with matching external speaker and VFO. The antenna connection of the TS-520SE is connected to the input of the MFJ-949C Antenna Tuner via a 3ft RG-8x Coaxial cable. The output of the Antenna Tuner is connected to 50ft of RG-8x which then connects to an inline lighting arrester that is outside of the house. The end of the RG-8x that is connected to the lightning arrester is looped 10 times to form a Balun as recommend by MFJ. The other side of the lightning arrester is connected to a MFJ-1778 G5RV antenna suspended between a tree and the second story of my house. The antenna is suspended with non-conductive nylon rope. Also, the lightning arrester is grounded using a 4ft solid 16 gauge copper wire connected to a copper coated grounding rod pounded in the ground.

My question is what would you recommend for station grounding. Some articles like the one I found on EHAM (http://www.eham.net/articles/21383) recommend no grounding at all.

Is the grounding screw at the back of the TS-520SE there for purely AC ground? As you are aware the TS-520SE does not have a grounded plug.

Does the TS-520SE require a good RF ground as well?

Thanks,

John

KD8SCX

49596. Re: [TS-520_820_530_830] Station Grounding

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-29 02:45:38 UTC
From: Wes Will
Topic: 49595 Message: 49596

On 08/28/2014 08:54 PM, jbdkz@... [TS-520_820_530_830] wrote:

> My question is what would you recommend for station grounding.

You won't go too far wrong if you follow the ARRL grounding guide:

http://www.arrl.org/grounding

All kinds of good information there.

Neatness, by the way, does NOT count for grounding. Shallow, sweeping curves, NOT tight, precise, 90-degree bends in your ground wires. Also, NO METAL SUPPORTS THAT ENCIRCLE THE GROUND LEADS. Any sort of metal (conductor) which completely encircles a ground lead, and this includes things like eye-bolts and metal stand-offs, is also called

A CHOKE.

Lightning surges may very well not (OK, just plain -WON'T-) pass down the ground wire at that encircled spot, and the surge WILL find somewhere else to which to jump at that point. Pray to your favourite deity IT AIN'T YOU.

Another thing, make certain that ALL your grounds are tied together and are at the EXACT same potential as the house power system ground. If you install a second ground system and do NOT tie it to the power ground, it WILL be at a different potential in comparison to the power lines, and WILL cause a "ground loop." If you have never had an RF burn from touching a cabinet knob or a drawer handle or something in your shack because there was stray RF running loose, well, I don't recommend it as something to seek out and put on your "bucket list," that's for sure.

(The 'stray' RF will be running down that ground loop, sure as you're born. And it will HURT you when it jumps to your fingers, out your hind end - if you're lucky- or your gonads - if you're not - to the frame of your chair, and out through the floor or something close by.

(I wish I was kidding and NOT speaking from experience - metal surplus military desk chair in the shack. Got me down the arm, out through the blue jeans -via the ol' danglies... ZOT!! I woke up, on the floor, with a VERY unpleasant burn in a VERY unusual place, and it was rather hard to explain to the doctor.) The burn if will leave where it enters AND where it leaves will be a thing you remember for a LONG time.)

--
Wes Will
SysAdmin
N9KDY

49597. Re: [TS-520_820_530_830] Station Grounding

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-29 12:49:23 UTC
From: Mike W5RKL
Topic: 49595 Message: 49597

Here's a link to Tom, W8JI, grounding webpage.

My shack which is a 10 x 20 outbuilding in the back yard, is grounded according to Tom's diagrams shown in the link below. This put the shack, house and antenna switch box system at the same ground potential. About 2 years ago lightning struck an 80 foot tall pine tree next to the shack (about 15 feet away), no damage, pulse or otherwise, occurred to any gear in the shack or the house.

http://w8ji.com/ground_systems.htm

73
Mike W5RKL

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

49598. Re: [TS-520_820_530_830] Digest Number 4943

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-29 14:52:03 UTC
From: Billy Bob
Topic: 49598 Message: 49598

Our city does inspections of electrical equipment with in the homes. They exclude coffee post, toasters, blenders and some TV's. I had to replace the cords on my 530 and my 830 to be up to code. They require all equipment to have the 3rd wire ground. Not only did I have to change the cords, I had to rewire several sockets for the 3rd wire ground. They also require the all transmitting equipment have a station ground separate from electrical ground. Now, lets see, by changing the cord to a 3rd wire ground and then a separate ground from the post on the radio, means that you are tying the 2 grounds together. I questioned that and they had no answer and said they would get back to me. That was 2 years ago and nothing heard. I guess they can't figure that one out. DAHHHH!
Bill wd8osj

On Friday, August 29, 2014 4:52 AM, "TS-520_820_530_830@yahoogroups.com" <TS-520_820_530_830@yahoogroups.com> wrote:

KENWOOD TS-520_820_530_830

KENWOOD TS-520_820_530_830 Group
3 Messages
Digest #4943

1a
Re: repair of VFO-230 by "fpath fpath" fpath02
2a
Station Grounding by jbdkz@sbcglobal.net
2b
Re: Station Grounding by "Wes Will" n9kdy
Messages
1a
Re: repair of VFO-230
Thu Aug 28, 2014 3:30 am (PDT) . Posted by:
"fpath fpath" fpath02
Fred,

Sorry for delay. I only change the electrolytics, have to be careful with not over heating foils so you don't lift them and create other porblems. The power supply electros are the biggest problem. It is the same for most of this era of equipment, as example, the SM220 HV PIO caps are now starting to fail due to age, getting NOS is not always the best option, but thus far I have been very lucky to have some from the late 90's manufacture era which has solved the problems

73s

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: TS-520_820_530_830@yahoogroups.com
Date: Tue, 26 Aug 2014 22:14:28 -0700
Subject: RE: [TS-520_820_ 530_830] repair of VFO-230

Hi Dave,

I checked the service manual. There are over 160 capacitors. Do you mean changing all of them?

what a huge job!

Fred VE3PIE

Reply to sender . Reply to group . Reply via Web Post . All Messages (15) . Top ^
2a
Station Grounding
Thu Aug 28, 2014 7:22 pm (PDT) . Posted by:
jbdkz@...
I have a TS-520SE with matching external speaker and VFO. The antenna connection of the TS-520SE is connected to the input of the MFJ-949C Antenna Tuner via a 3ft RG-8x Coaxial cable. The output of the Antenna Tuner is connected to 50ft of RG-8x which then connects to an inline lighting arrester that is outside of the house. The end of the RG-8x that is connected to the lightning arrester is looped 10 times to form a Balun as recommend by MFJ. The other side of the lightning arrester is connected to a MFJ-1778 G5RV antenna suspended between a tree and the second story of my house. The antenna is suspended with non-conductive nylon rope. Also, the lightning arrester is grounded using a 4ft solid 16 gauge copper wire connected to a copper coated grounding rod pounded in the ground.

My question is what would you recommend for station grounding. Some articles like the one I found on EHAM (http://www.eham.net/articles/21383) recommend no grounding at all.

Is the grounding screw at the back of the TS-520SE there for purely AC ground? As you are aware the TS-520SE does not have a grounded plug.

Does the TS-520SE require a good RF ground as well?

Thanks,

John

KD8SCX

Reply to sender . Reply to group . Reply via Web Post . All Messages (2) . Top ^
2b
Re: Station Grounding
Thu Aug 28, 2014 7:47 pm (PDT) . Posted by:
"Wes Will" n9kdy
On 08/28/2014 08:54 PM, jbdkz@... [TS-520_820_530_830] wrote:

> My question is what would you recommend for station grounding.

You won't go too far wrong if you follow the ARRL grounding guide:

http://www.arrl.org/grounding

All kinds of good information there.

Neatness, by the way, does NOT count for grounding. Shallow, sweeping curves, NOT tight, precise, 90-degree bends in your ground wires. Also, NO METAL SUPPORTS THAT ENCIRCLE THE GROUND LEADS. Any sort of metal (conductor) which completely encircles a ground lead, and this includes things like eye-bolts and metal stand-offs, is also called

A CHOKE.

Lightning surges may very well not (OK, just plain -WON'T-) pass down the ground wire at that encircled spot, and the surge WILL find somewhere else to which to jump at that point. Pray to your favourite deity IT AIN'T YOU.

Another thing, make certain that ALL your grounds are tied together and are at the EXACT same potential as the house power system ground. If you install a second ground system and do NOT tie it to the power ground, it WILL be at a different potential in comparison to the power lines, and WILL cause a "ground loop." If you have never had an RF burn from touching a cabinet knob or a drawer handle or something in your shack because there was stray RF running loose, well, I don't recommend it as something to seek out and put on your "bucket list," that's for sure.

(The 'stray&# 39; RF will be running down that ground loop, sure as you're born. And it will HURT you when it jumps to your fingers, out your hind end - if you're lucky- or your gonads - if you're not - to the frame of your chair, and out through the floor or something close by.

(I wish I was kidding and NOT speaking from experience - metal surplus military desk chair in the shack. Got me down the arm, out through the blue jeans -via the ol' danglies... ZOT!! I woke up, on the floor, with a VERY unpleasant burn in a VERY unusual place, and it was rather hard to explain to the doctor.) The burn if will leave where it enters AND where it leaves will be a thing you remember for a LONG time.)

--
Wes Will
SysAdmin
N9KDY

Reply to sender . Reply to group . Reply via Web Post . All Messages (2) . Top ^
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49599. Re: [TS-520_820_530_830] Digest Number 4943

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-29 15:34:22 UTC
From: Wes Will
Topic: 49598 Message: 49599

On 08/29/2014 09:52 AM, Billy Bob paw_paw44036@...
[TS-520_820_530_830] wrote:
> Our city does inspections of electrical equipment within the homes.
> ....
> Now, lets see, by changing the cord to a 3rd wire ground and then a
> separate ground from the post on the radio, means that you are tying
> the 2 grounds together. I questioned that and they had no answer
> and said they would get back to me. That was 2 years ago and nothing
> heard. I guess they can't figure that one out. DAHHHH!
> Bill wd8osj

Yes indeed. A sterling example of when stupid bureaucracy meets physics. Physics will win out, every time.

Problem is, that small ground pin connection isn't up to a lot of current, balancing your two ground systems ("separate" one and the original power system ground). You really ought to use something a lot beefier and tie them together for real, instead of relying on a little 14-gauge and the house ground wire through the panel.

The way it is will keep the ground loop issues at bay (usually, there might be some odd situations where you get some RF on cases if the 3rd-pin isn't making a solid connection - corrosion for instance on the chassis of a transmitter or amp). But if you take a lightning bolt it I can't see the power cords holding all the surge current and bleeding it off quickly enough to ground.

I work on a very short budget for this hobby. Scavenge and scrounge is the order of the day, every day. The one thing upon which I spent the most of my limited funds was the grounding system. Copper-clad rods and heavy-gauge wire (and even some woven-wire straps on a UPS system for the server rack - only marginally ham-related but in need of a good ground), is rather nastily expensive. Of course now I hear that copper prices have dropped a bit, wouldn't you just know it? (Bet it still ain't cheap!)

--
Wes Will
SysAdmin
N9KDY

49600. Re: [TS-520_820_530_830] Digest Number 4943

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-29 18:15:38 UTC
From: Louis Wilen
Topic: 49598 Message: 49600

KENWOOD TS-520_820_530_830They also require the all transmitting equipment have a station ground separate from electrical ground.

As I’m sure you know, the NEC requires all grounds to be tied together. The city inspector is wrong.

The pages written by W8JI, http://www.w8ji.com/station_ground.htm, are entirely correct.

Louis
W3LMW

From: mailto:TS-520_820_530_830@yahoogroups.com
Sent: Friday, August 29, 2014 10:52 AM
To: No Reply ; TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830] Digest Number 4943

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KENWOOD TS-520_820_530_830 Group
3 Messages Digest #4943 1a Re: repair of VFO-230 by "fpath fpath" fpath02
2a Station Grounding by jbdkz@... 2b Re: Station Grounding by "Wes Will" n9kdy Messages
1a Re: repair of VFO-230 Thu Aug 28, 2014 3:30 am (PDT) . Posted by: "fpath fpath" fpath02
Fred,

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73s

Dave

VK5PDL

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From: TS-520_820_530_830@yahoogroups.com
Date: Tue, 26 Aug 2014 22:14:28 -0700
Subject: RE: [TS-520_820_ 530_830] repair of VFO-230

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Does the TS-520SE require a good RF ground as well?

Thanks,

John

KD8SCX

Reply to sender . Reply to group . Reply via Web Post . All Messages (2) . Top ^ 2b Re: Station Grounding Thu Aug 28, 2014 7:47 pm (PDT) . Posted by: "Wes Will" n9kdy On 08/28/2014 08:54 PM, jbdkz@... [TS-520_820_530_830] wrote:

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SysAdmin
N9KDY

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49601. Re: *** SPAM ***Re: [TS-520_820_530_830] Digest Number 4943

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-29 18:38:24 UTC
From: W5RKL
Topic: 49598 Message: 49601

That sounds typical from an "electrician" stand point. Electricians do not deal with RF etc, they deal entirely with normal house AC voltages/wiring/grounds.

You can do what you want but if it were me, I would make darn sure my shack ground is at the same ground potential as the house ground by connecting them both together with large solid copper wire!! You can see how this is done on W8JI's website link I provided!

73
Mike W5RKL

On 8/29/2014 1:15 PM, 'Louis Wilen' louis.wilen@...
[TS-520_820_530_830] wrote:
>
> /They also require the all transmitting equipment have a station
> ground separate from electrical ground./
> //
> As I’m sure you know, the NEC requires all grounds to be tied
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> The pages written by W8JI, http://www.w8ji.com/station_ground.htm*,
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> W3LMW
> *From:* mailto:TS-520_820_530_830@yahoogroups.com
> *Sent:* Friday, August 29, 2014 10:52 AM
> *To:* No Reply <mailto:notify-dg-TS-520_820_530_830@yahoogroups.com> ;
> TS-520_820_530_830@yahoogroups.com
> <mailto:TS-520_820_530_830@yahoogroups.com>
> *Subject:* Re: [TS-520_820_530_830] Digest Number 4943
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>
>
> Yahoo! Groups
> <https://groups.yahoo.com/neo;_ylc=X3oDMTJkZHV0dXRsBF9TAzk3MzU5NzE1BGdycElkAzc1MjUwMjEEZ3Jwc3BJZAMxNzA1MDYzMTA4BHNlYwNmdHIEc2xrA2dmcARzdGltZQMxNDA5MzAwNjQx>
> KENWOOD TS-520_820_530_830 Group
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>
>
> 3 Messages
>
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> 1a
> Re: repair of VFO-230
> <https://us-mg6.mail.yahoo.com/neo/launch?.rand=37m745dggf33c#1a>by
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> Top ^ <https://us-mg6.mail.yahoo.com/neo/launch?.rand=37m745dggf33c#toc>
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> All Messages (2)
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> Top ^ <https://us-mg6.mail.yahoo.com/neo/launch?.rand=37m745dggf33c#toc>
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> 2b
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> things like eye-bolts and metal stand-offs, is also called
>
> A CHOKE.
>
> Lightning surges may very well not (OK, just plain -WON'T-) pass down
> the ground wire at that encircled spot, and the surge WILL find
> somewhere else to which to jump at that point. Pray to your favourite
> deity IT AIN'T YOU.
>
> Another thing, make certain that ALL your grounds are tied together and

> are at the EXACT same potential as the house power system ground. If
> you install a second ground system and do NOT tie it to the power
> ground, it WILL be at a different potential in comparison to the power
> lines, and WILL cause a "ground loop." If you have never had an RF burn
> from touching a cabinet knob or a drawer handle or something in your
> shack because there was stray RF running loose, well, I don't recommend
> it as something to seek out and put on your "bucket list," that's for
> sure.
>
> (The 'stray&# 39; RF will be running down that ground loop, sure as you're
> born. And it will HURT you when it jumps to your fingers, out your hind
> end - if you're lucky- or your gonads - if you're not - to the frame of
> your chair, and out through the floor or something close by.
>
> (I wish I was kidding and NOT speaking from experience - metal surplus
> military desk chair in the shack. Got me down the arm, out through the
> blue jeans -via the ol' danglies... ZOT!! I woke up, on the floor, with
> a VERY unpleasant burn in a VERY unusual place, and it was rather hard
> to explain to the doctor.) The burn if will leave where it enters AND
> where it leaves will be a thing you remember for a LONG time.)
>
> --
> Wes Will
> SysAdmin
> N9KDY
>
> Reply to sender
> <mailto:wwill@...?subject=Re%3A%20Station%20Grounding>.
> Reply to group
> <mailto:TS-520_820_530_830@yahoogroups.com?subject=Re%3A%20Station%20Grounding>.
> Reply via Web Post
> <https://groups.yahoo.com/neo/groups/TS-520_820_530_830/conversations/messages/49596;_yl
c=X3oDMTJyYW9sazVtBF9TAzk3MzU5NzE1BGdycElkAzc1MjUwMjEEZ3Jwc3BJZAMxNzA1MDYzMTA4BG1zZ0lkAzQ5
NTk2BHNlYwNkbXNnBHNsawNycGx5BHN0aW1lAzE0MDkzMDA2NDE-?act=reply&messageNum=49596>.
> All Messages (2)
> <https://groups.yahoo.com/neo/groups/TS-520_820_530_830/conversations/topics/49595;_ylc=
X3oDMTM3c2ZlZWdwBF9TAzk3MzU5NzE1BGdycElkAzc1MjUwMjEEZ3Jwc3BJZAMxNzA1MDYzMTA4BG1zZ0lkAzQ5NT
k2BHNlYwNkbXNnBHNsawN2dHBjBHN0aW1lAzE0MDkzMDA2NDEEdHBjSWQDNDk1OTU->.
> Top ^ <https://us-mg6.mail.yahoo.com/neo/launch?.rand=37m745dggf33c#toc>
> Visit Your Group
> <https://groups.yahoo.com/neo/groups/TS-520_820_530_830/info;_ylc=X3oDMTJldHJvYTRsBF9TAz
k3MzU5NzE1BGdycElkAzc1MjUwMjEEZ3Jwc3BJZAMxNzA1MDYzMTA4BHNlYwN2dGwEc2xrA3ZnaHAEc3RpbWUDMTQw
OTMwMDY0MQ-->
>
>
> * New Members
> <https://groups.yahoo.com/neo/groups/TS-520_820_530_830/members/all;_ylc=X3oDMTJmc25hNGt
nBF9TAzk3MzU5NzE1BGdycElkAzc1MjUwMjEEZ3Jwc3BJZAMxNzA1MDYzMTA4BHNlYwN2dGwEc2xrA3ZtYnJzBHN0a
W1lAzE0MDkzMDA2NDE->
> 8

>
> Yahoo! Groups
> <https://groups.yahoo.com/neo;_ylc=X3oDMTJkZHV0dXRsBF9TAzk3MzU5NzE1BGdycElkAzc1MjUwMjEEZ
3Jwc3BJZAMxNzA1MDYzMTA4BHNlYwNmdHIEc2xrA2dmcARzdGltZQMxNDA5MzAwNjQx>
>
> • Privacy
> <https://info.yahoo.com/privacy/us/yahoo/groups/details.html> •
> Unsubscribe
> <mailto:TS-520_820_530_830-unsubscribe@yahoogroups.com?subject=Unsubscribe>
> • Terms of Use <https://info.yahoo.com/legal/us/yahoo/utos/terms/>
>
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

49602. Re: *** SPAM ***Re: [TS-520_820_530_830] Digest Number 4943

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-29 21:12:25 UTC
From: R Oler
Topic: 49598 Message: 49602

Maybe although I go with "they didnt know what they were talking about"

At our "farm" we have 40 KW of solar energy (rooftops, dedicated panels etc), 3 200 amp electrical services and the WB5MZO station tower(s) and they are all tied together ground wise
everyplace I can tie them together with very large wire...and the electrical folks were very
very happy about this.

you are asking for trouble if you start running "separate" grounds. back in the day (going through
college and undergraduate) I helped put in satellite earth stations for commercial TV installations
(including WTBS when they were at Techwood) and we grounded "everything" together.

Robert WB5MZO and soon TA1 something...

Sent from my iPad

> On Aug 29, 2014, at 13:38, "W5RKL w5rkl@yahoo.com [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:
>
> That sounds typical from an "electrician" stand point. Electricians do not deal with RF etc, they deal entirely with normal house AC voltages/wiring/grounds.
>
> You can do what you want but if it were me, I would make darn sure my shack ground is at the same ground potential as the house ground by connecting them both together with large solid copper wire!! You can see how this is done on W8JI's website link I provided!
>
>
> 73
> Mike W5RKL
>
>
>> On 8/29/2014 1:15 PM, 'Louis Wilen' louis.wilen@verizon.net [TS-520_820_530_830] wrote:
>>
>> They also require the all transmitting equipment have a station ground separate from electrical ground.
>>
>> As I’m sure you know, the NEC requires all grounds to be tied together. The city inspector is wrong.
>>
>> The pages written by W8JI, http://www.w8ji.com/station_ground.htm, are entirely correct.
>>
>> Louis

>> W3LMW
>>
>>
>>
>> From: mailto:TS-520_820_530_830@yahoogroups.com
>> Sent: Friday, August 29, 2014 10:52 AM
>> To: No Reply ; TS-520_820_530_830@yahoogroups.com
>> Subject: Re: [TS-520_820_530_830] Digest Number 4943
>>
>>
>> Our city does inspections of electrical equipment with in the homes. They exclude coffee post, toasters, blenders and some TV's. I had to replace the cords on my 530 and my 830 to be up to code. They require all equipment to have the 3rd wire ground. Not only did I have to change the cords, I had to rewire several sockets for the 3rd wire ground. They also require the all transmitting equipment have a station ground separate from electrical ground. Now, lets see, by changing the cord to a 3rd wire ground and then a separate ground from the post on the radio, means that you are tying the 2 grounds together. I questioned that and they had no answer and said they would get back to me. That was 2 years ago and nothing heard. I guess they can't figure that one out. DAHHHH!
>> Bill wd8osj
>>
>>
>>
>>
>> On Friday, August 29, 2014 4:52 AM, "TS-520_820_530_830@yahoogroups.com" <TS-520_820_530_830@yahoogroups.com> wrote:
>>
>>
>> KENWOOD TS-520_820_530_830 Group
>> 3 Messages Digest #4943
>> 1a Re: repair of VFO-230 by "fpath fpath" fpath02
>> 2a Station Grounding by jbdkz@sbcglobal.net
>> 2b Re: Station Grounding by "Wes Will" n9kdy
>> Messages
>> 1a Re: repair of VFO-230 Thu Aug 28, 2014 3:30 am (PDT) . Posted by: "fpath fpath" fpath02 Fred,
>>
>> Sorry for delay. I only change the electrolytics, have to be careful with not over heating foils so you don't lift them and create other porblems. The power supply electros are the biggest problem. It is the same for most of this era of equipment, as example, the SM220 HV PIO caps are now starting to fail due to age, getting NOS is not always the best option, but thus far I have been very lucky to have some from the late 90's manufacture era which has solved the problems
>>
>> 73s
>>
>> Dave
>>
>> VK5PDL
>>

>>
>> To: TS-520_820_530_830@yahoogroups.com
>> From: TS-520_820_530_830@yahoogroups.com
>> Date: Tue, 26 Aug 2014 22:14:28 -0700
>> Subject: RE: [TS-520_820_ 530_830] repair of VFO-230
>>
>> Hi Dave,
>>
>> I checked the service manual. There are over 160 capacitors. Do you mean changing all of them?
>>
>> what a huge job!
>>
>> Fred VE3PIE
>>
>> Reply to sender . Reply to group . Reply via Web Post . All Messages (15) . Top ^
>> 2a Station Grounding Thu Aug 28, 2014 7:22 pm (PDT) . Posted by: jbdkz@sbcglobal.net I have a TS-520SE with matching external speaker and VFO. The antenna connection of the TS-520SE is connected to the input of the MFJ-949C Antenna Tuner via a 3ft RG-8x Coaxial cable. The output of the Antenna Tuner is connected to 50ft of RG-8x which then connects to an inline lighting arrester that is outside of the house. The end of the RG-8x that is connected to the lightning arrester is looped 10 times to form a Balun as recommend by MFJ. The other side of the lightning arrester is connected to a MFJ-1778 G5RV antenna suspended between a tree and the second story of my house. The antenna is suspended with non-conductive nylon rope. Also, the lightning arrester is grounded using a 4ft solid 16 gauge copper wire connected to a copper coated grounding rod pounded in the ground.
>>
>>
>> My question is what would you recommend for station grounding. Some articles like the one I found on EHAM (http://www.eham.net/articles/21383) recommend no grounding at all.
>>
>>
>> Is the grounding screw at the back of the TS-520SE there for purely AC ground? As you are aware the TS-520SE does not have a grounded plug.
>>
>>
>> Does the TS-520SE require a good RF ground as well?
>>
>>
>> Thanks,
>>
>>
>> John
>>
>>
>> KD8SCX
>>
>> Reply to sender . Reply to group . Reply via Web Post . All Messages (2) . Top ^
>> 2b Re: Station Grounding Thu Aug 28, 2014 7:47 pm (PDT) . Posted by: "Wes Will" n9kdy On 08/28/2014 08:54 PM, jbdkz@sbcglobal.net [TS-520_820_530_830] wrote:

>>
>> > My question is what would you recommend for station grounding.
>>
>> You won't go too far wrong if you follow the ARRL grounding guide:
>>
>> http://www.arrl.org/grounding
>>
>> All kinds of good information there.
>>
>> Neatness, by the way, does NOT count for grounding. Shallow, sweeping
>> curves, NOT tight, precise, 90-degree bends in your ground wires. Also,
>> NO METAL SUPPORTS THAT ENCIRCLE THE GROUND LEADS. Any sort of metal
>> (conductor) which completely encircles a ground lead, and this includes
>> things like eye-bolts and metal stand-offs, is also called
>>
>> A CHOKE.
>>
>> Lightning surges may very well not (OK, just plain -WON'T-) pass down
>> the ground wire at that encircled spot, and the surge WILL find
>> somewhere else to which to jump at that point. Pray to your favourite
>> deity IT AIN'T YOU.
>>
>> Another thing, make certain that ALL your grounds are tied together and
>> are at the EXACT same potential as the house power system ground. If
>> you install a second ground system and do NOT tie it to the power
>> ground, it WILL be at a different potential in comparison to the power
>> lines, and WILL cause a "ground loop." If you have never had an RF burn
>> from touching a cabinet knob or a drawer handle or something in your
>> shack because there was stray RF running loose, well, I don't recommend
>> it as something to seek out and put on your "bucket list," that's for sure.
>>
>> (The 'stray&# 39; RF will be running down that ground loop, sure as you're
>> born. And it will HURT you when it jumps to your fingers, out your hind
>> end - if you're lucky- or your gonads - if you're not - to the frame of
>> your chair, and out through the floor or something close by.
>>
>> (I wish I was kidding and NOT speaking from experience - metal surplus
>> military desk chair in the shack. Got me down the arm, out through the
>> blue jeans -via the ol' danglies... ZOT!! I woke up, on the floor, with
>> a VERY unpleasant burn in a VERY unusual place, and it was rather hard
>> to explain to the doctor.) The burn if will leave where it enters AND
>> where it leaves will be a thing you remember for a LONG time.)
>>
>> --
>> Wes Will
>> SysAdmin
>> N9KDY
>>
>> Reply to sender . Reply to group . Reply via Web Post . All Messages (2) . Top ^
>> VISIT YOUR GROUP

>> New Members 8
>> • Privacy • Unsubscribe • Terms of Use
>>
>
>
>
>
> This email is free from viruses and malware because avast! Antivirus protection is active.
>
>
>

49603. Re: [TS-520_820_530_830] Station Grounding

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-29 17:26:00 UTC
From: jbdkz@...
Topic: 49595 Message: 49603

So based on this statement in the ARRL Grounding page (http://www.arrl.org/grounding)

If you use a "complete" antenna like a dipole or a ground plane (that is, one that doesn't require your feedline to connect to ground), you don't need a RF ground, as long as you keep common-mode currents off your feedline. A "current" or "choke" balun is most commonly used for this.

My G5RV is a type of dipole antenna and I do have the recommended balun. Is it safe to assume that I only have to worry about Safety Ground and not RF grounding in the shack?

Thanks,

John

KD8SCX

49604. Re: [TS-520_820_530_830] Station Grounding

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-29 22:33:30 UTC
From: R Oler
Topic: 49595 Message: 49604

every antenna I have, the coax at the antenna connection point is at ground potential
WB5MZO Robert

Sent from my iPad

> On Aug 29, 2014, at 17:00, "jbdkz@sbcglobal.net [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:
>
> So based on this statement in the ARRL Grounding page (http://www.arrl.org/grounding)
>
>
> If you use a "complete" antenna like a dipole or a ground plane (that is, one that doesn't require your feedline to connect to ground), you don't need a RF ground, as long as you keep common-mode currents off your feedline. A "current" or "choke" balun is most commonly used for this.
>
> My G5RV is a type of dipole antenna and I do have the recommended balun. Is it safe to assume that I only have to worry about Safety Ground and not RF grounding in the shack?
>
> Thanks,
>
> John
>
> KD8SCX
>
>
>

49605. Home electrical inspections

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-29 23:24:48 UTC
From: Lou Blasco
Topic: 49605 Message: 49605

Hi Bill,

That's interesting. Is it a service that is offered to residents or do they enter every single dwelling as part of some city ordinance?

Lou
VK3ALB

At 00:52 30/08/2014, Bill wd8osj wrote:
>
>Our city does inspections of electrical equipment with in the homes.

49606. Re: [TS-520_820_530_830] Station Grounding

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-29 23:49:39 UTC
From: John Davidson
Topic: 49595 Message: 49606

I currently have 8 antennas up, only one is not fed with grounded shield coax. It's twinlead goes directly to a tuner connected to the radio's ground thru a few feet of 1/4 inch flex hardline coax and a coax switch. Never had a lightning problem in 53 years.

My radio is Ham Radio...CW is Real Radio
73, John...K8JD

On Friday, August 29, 2014 6:33 PM, "R Oler orbitjet@hotmail.com [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

every antenna I have, the coax at the antenna connection point is at ground potential
WB5MZO Robert

Sent from my iPad

On Aug 29, 2014, at 17:00, "jbdkz@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>So based on this statement in the ARRL Grounding page (http://www.arrl.org/grounding)
>
>
> If you use a "complete" antenna like a dipole or a ground plane (that is, one that doesn't require your feedline to connect to ground), you don't need a RF ground, as long as you keep common-mode currents off your feedline. A "current" or "choke" balun is most commonly used for this.
>
>
>
>My G5RV is a type of dipole antenna and I do have the recommended balun. Is it safe to assume that I only have to worry about Safety Ground and not RF grounding in the shack?
>
>
>Thanks,
>
>
>John
>
>
>KD8SCX
>
>
>
>

49607. RE: [TS-520_820_530_830] repair of VFO-230

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-30 00:49:54 UTC
From: kd8zaz@...
Topic: 49564 Message: 49607

IMO, it's not really that huge of a job with the correct tools and patience. I had fun doing mine. I'm almost sad that I'm about 9 caps away from completion. Maybe I'll make a business of it depending on if I can get the poor thing working again.

KD8ZAZ

49608. RE: [TS-520_820_530_830] repair of VFO-230

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-30 06:35:42 UTC
From: fpath fpath
Topic: 49564 Message: 49608

Nothing like a sense of achievement knowing that you have repaired it. No reason it shouldnt work as long as you have returned the caps back the way they came out of board and that you used a static strap. The early VFO230's had some caps in opposite to the way it was orientated on the board, bad screen printing setup. Let us know how you go when you finish

73s

Dave

VK5PDL

From: TS-520_820_530_830@yahoogroups.com
To: TS-520_820_530_830@yahoogroups.com
Date: Fri, 29 Aug 2014 17:49:54 -0700
Subject: RE: [TS-520_820_530_830] repair of VFO-230

IMO, it's not really that huge of a job with the correct tools and patience. I had fun doing mine. I'm almost sad that I'm about 9 caps away from completion. Maybe I'll make a business of it depending on if I can get the poor thing working again.

KD8ZAZ

49609. Re: Station Grounding

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-31 00:14:46 UTC
From: rkersey tds.net
Topic: 49595 Message: 49609

Hello All,

Well, I've been thinking about this issue for a while, but wasn't going to raise it here since it isn't specifically Kenwood related. But since this thread is already well along, I'll chime in.

I have a Kenwood TS-830S that I haven't used yet. No station at the house at present. I have read a lot about grounding and understand about putting all the grounds together, AC and RF. From what I read, however, it would be best to run my AC ground to the main ground at the breaker box. The shack location would be a good 50 to 60 feet from there and my understanding was that it would be best to run the ground on 6ga to 8 ga wire buried in the ground, running around the house to the breaker box, then tie the RF ground to two or three ground rods connected by a copper strip and connected to this wire running to the breaker box ground.

When you figure the cost of the heavy wire, the copper strip, at least two ground rods and a ditch witch to keep it in the ground, we're talking about several hundred dollars I don't have.

I do have lots of copper and iron pipe running into the ground in the house to hook to, but wasn't sure this would be OK. I thought about grounding the radio to the three prong outlets and just using an "field day" type antenna that I could put up and take down, maybe a vertical dipole which wouldn't require a permanent ground beyond tying into the house ground through the local outlet plug. I'd think this would protect me from RF in the shack, but, of course, not from lightning, which would be the reason I would take the antenna down when not transmitting.

Any advice/discussion greatly appreciated.

Roy, KI4HAG

49610. Re: [TS-520_820_530_830] Re: Station Grounding

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-31 01:51:59 UTC
From: Wes Will
Topic: 49595 Message: 49610

On 08/30/2014 07:14 PM, 'rkersey tds.net' rkersey@... t
> least two ground rods and a ditch witch to keep it in the ground,

"Ditch Witch"?? It is to laugh! Such jocularity, so much entertainment....

Son, lemme innerduce ya to this hyar thang what I used. It's called

a SHOVEL.

Us farmer types don't call a spade a spade, we generally just say shovel
unless it happens to BE something like a tile spade. ("Know your tools.")

I -wish- I had the cash to hire a powered post-hole auger (there's some
fencing needs to get put up out there), or a ditch-witch (drainage tile
for the front of the house), or a lot of other things.

With my arthritis, it would be simply glorious.

With my "budget," it would be simply impossible.

For the ground I put in, it took me the better part of a week, digging a
bit when I could, to lay the ground strap around roughly 70 feet of the
perimeter of my house.

I expect to be occupied for at least three more weeks with ripping off
the tongue and groove flooring on my front porch, four feet at a time,
and replacing it with sheet goods instead. (Have you priced 3/4 inch
tongue and groove lately?? I have, and that's why I'm putting down OSB
where the 125-year-old tongue-and-groove planks used to be....)

You just have to dial back the old expectation-meter to something
reasonable for 'part-time,' and 'by hand,' and the whole thing
eventually gets done.

Just not in one day.

"This is my hobby; I do it for fun."

Repeat that mantra every time you get into some onerous chore connected
with your leisure-time pursuits.

--
Wes Will
SysAdmin
N9KDY

49611. Re: [TS-520_820_530_830] Home electrical inspections

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-31 09:58:29 UTC
From: KB1TCD
Topic: 49605 Message: 49611

Bill,

Is that an optional service or is it required?
I work for my town but there is no way they are coming inside my qth!

73 de Jose Douglas KB1TCD

> At 00:52 30/08/2014, Bill wd8osj wrote:
>> >
>> >Our city does inspections of electrical equipment with in the homes.

49612. Re: [TS-520_820_530_830] Home electrical inspections

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-31 10:26:25 UTC
From: Wes Will
Topic: 49605 Message: 49612

On 08/31/2014 04:58 AM, KB1TCD kb1tcd@... [TS-520_820_530_830] wrote:
> Bill,
>
> Is that an optional service or is it required?
> I work for my town but there is no way they are coming inside my qth!
>
> 73 de Jose Douglas KB1TCD
>
>> At 00:52 30/08/2014, Bill wd8osj wrote:
>>>>
>>>> Our city does inspections of electrical equipment with in the homes.

If that was a civic requirement I would be petitioning the city for removal of the law or for changing it to match well-known "best practice." (NOT suing them for money/profit.) They need to consult someone who has a clue before making such statements or laws.

It can be easily proven that a secondary ground which is not bonded together with the primary house mains ground CAUSES rather than ameliorates hazards. Having different potentials WILL create a current flow, it's just physics and some fool lawyer with a pen cannot make it otherwise. (Just like Pi cannot be made to equal 3.0 exactly, another piece of foolishness once considered by morons with legal and not mathematical degrees, and a 'mandate from the people.' The 'people,' bless their black and flabby hearts, know nothing about electricity.)

(In 1897 the Indiana House of Representatives unanimously passed a measure redefining the area of a circle and the value of pi. (House Bill no. 246, introduced by Rep. Taylor I. Record.) The bill died in the state Senate. It was never actually passed as a law, anywhere, despite the internet meme to the contrary in re a mythical Alabama legislature which supposedly passed this bit of foolishness into law in that state. Not even in Alabama.)

The U.S. and Canadian national electrical codes BOTH back this up. Don't know about many European ones, not the E.U. code in particular, but both the (West) German electrical code in the 1980's, and the U.K. electrical code at that same time, covered ground bonding and ground loops. I was stationed in W. Berlin and had to prove to the (German) electrician on base at Tempelhof that the receive-only equipment in my barracks room (NCOs got a room to themselves, thankfully) met code for grounding, among other things. They disliked the long-wire vertical antenna dangling out the window, 20-plus meters up, mostly. I did and it was, so I got to keep my old (tube-based) Heathkit.

Getting this idiocy removed as a civic requirement should be a walk in the park, in any jurisdiction. Please, bond your grounds together, for your own, and your family's and friends', safety. Going SK happens to all of us but there's no reason to rush things.

--
Wes Will
SysAdmin
N9KDY

49613. Re: [TS-520_820_530_830] Home electrical inspections

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-31 13:56:35 UTC
From: Mike W5RKL
Topic: 49605 Message: 49613

This grounding discussion has gone on long enough
If members wish to continue discussing this issue please discuss it off
group through private email.

Thank you.

73
Mike W5RKL
Yahoo Kenwood TS_520_820_530_830 Group Moderator

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

49614. Hybrid Net Update (August 31, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-08-31 22:19:41 UTC
From: Mark Gilger
Topic: 49614 Message: 49614

Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

The net started it's existence on November 1st, 2012. The yearly check-in totals are posted at the bottom of this message. It showed we had a 10% increase in our Saturday check-ins and an 8% on Sunday as compared to the 2012 check-ins.

The Saturday net was run by Jimmy, WB2KNR. There were 8 stations checking in under poor band conditions. We had the following number of radios checking in.

1 running TS-520(x)
2 running TS-530(x)
2 running TS-820(x)
2 running TS-830S
0 running TS-511
0 running 599 twins

The rest were running non Kenwood hybrid equipment.

Jimmy was running his TS-520.

The Sunday net was run by me, WB0IQK. There were 9 stations checking in under good band conditions. We had the following number of radios checking in.

2 running TS-520(x)
2 running TS-530(x)
1 running TS-820(x)
2 running TS-830S
0 running TS-511
0 running 599 twins

The rest were running non Kenwood hybrid equipment.

I was running my TS-820s twins (TS-820S + R820).

We have been having several people checking in regularly with their TS-430, TS-440, and TS-940□s, which of course is not a hybrid,

although over 30+ years old. Everyone is welcome
as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a
net control station, please send me an email.
Currently it's just myself, WB2KNR and WB0SGA. I
would like to get several more. If we do, we can
alternate so everyone might be on a 3-4 week
rotation. It's a lot of fun and a good way to
make sure you station is optimized.

For anyone that has not heard, we have a new web
site that WB4HFN is hosting. He currently has a
very nice site for Drake, Collins and Heathkit
and now Kenwood Hybrids. Good quality manuals
plus sale flyers and brochures will be found
here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 □ Oct. 2012 Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins

November 2013, Saturday□s net total = 94, Sunday□s total = 85
December 2013, Saturday□s net total = 87, Sunday□s total = 103
January 2014, Saturday□s net total = 71, Sunday□s total = 82
February 2014, Saturday□s net total = 80, Sunday□s total = 85
March 2014, Saturday□s net total = 82, Sunday□s total = 73
April 2014, Saturday□s net total = 64, Sunday□s total =43
May 2014, Saturday□s net total = 66, Sunday□s total = 35
June 2014, Saturday□s net total = 43, Sunday□s total = 59
July 2014, Saturday□s net total = 24, Sunday□s total = 46
August 2014, Saturday□s net total = 47, Sunday□s total = 50 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

49615. Parts Rigs

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-01 12:27:33 UTC
From: wagstw46@...
Topic: 49615 Message: 49615

Anyone have a non-functioning TS530 and TS830?

I am looking for radios that I can use to harvest parts to keep other KW hybrid owners radios on the air. Prefer that all the boards be in place and not significantly cannibalized. Cosmetic condition is not important. Dont have to have covers. They can be beat.

In addition to paying for the radios I will also pay for UPS or Fed Ex to pack for you if that helps.

Please contact me off the List.

Thanks
Terry K9TW

49616. Selling ALL of my hybrid Parts...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-01 13:42:38 UTC
From: ke5ftf@...
Topic: 49616 Message: 49616

I have decided to sell all my Kenwood Hybrid parts...
Kenwood TS-520 to the 830S...
Must come to Wichita Falls, TX to pick up...
I have taken an inventory with my normal selling price for each part that I have...
I built an Excel spreadsheet so you can see what I have...
I have also taken pictures so you can take a look...

I would prefer to sell all to one buyer or even a group of buyers that could take what they want...

I will not sell a part out of the inventory at this time...

Parts so far total over $30,000 but realize it would take many years to sell all of the parts, so just a fair offer...

I could split up the sale on the different models if needed if I can’t sell all at once...

Be willing to take an Icom Pro-3 station or a Ten-Tec Orion II station on trade...

Send me an Email off board & provide your Email & will email you the Excel spreadsheet & pictures...

Thanks,
Bob

ke5ftf at mail.com
940-488-Nine Two Three Six
KE5FTF

49617. New member with new 830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-05 02:21:34 UTC
From: n0dbx@...
Topic: 49617 Message: 49617

Actually it looks almost new! Tickled to get one. Was saving pennies back in the 80's when they went away.

Did some touch up alignment today. S Meter is on the money, RIT, etc., after considerable warm up. Is there something to look for in common warm up drift problems? It's probably within the KW specs, but nothing like the ARRL test result.

I notice pics in the files of what I assume are DDS VFO's. I'd like more info on that. Externally, of course. What sort of output levels do the remote VFO's such as the 230 output? I have an N3ZI in use with boatanchors that would probably work with some switching. Any info appreciated.

BTW it's Gold Label with the KB-1! Don't hate me just cuz i'm beautiful

Some dealer pulled the filters, of course. Also the matching speaker turned out to be from a 940. I have more collecting to do.

Darrel, N0DBX

49618. Re: New member with new 830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-05 17:48:57 UTC
From: n0dbx@...
Topic: 49617 Message: 49618

Doing more research on the radio and I have found all the controversy about the "Gold Edition". Correspondence with the set indicates it was purchased used from Floyd Electronics in 1985 and there was no mention of label color or such in the letters.

-------Remember writing to someone to get a radio price?!?

The serial begins with the number 2 and it never appeared to have extra filters, has the K5 Murata, etc.

So, hope I didn't open a can of worms. I said I was new! The rig is exceptionally clean, though. Still on the bench. Tightened screws, adjusted the RIT and Notch. Listened to myself on the Icom. Sounds good.

Back to learning.

Darrel, N0DBX

49620. Re: [TS-520_820_530_830] TS 820s connected to WIN XP

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-05 23:29:57 UTC
From: Joseph Stiles
Topic: 49619 Message: 49620

Andrew,

The 820 series has "phone patch in/out" jacks on the rear panel, you can use those. However,
I think that both jacks do not have a set level. You should be able to set the proper levels using the "mic" control for "patch in" and the "AF gain(volume) for "patch out" and your sound card/software.

Take a look at the schematic, you can see how they are wired.

73 Joe
WB7UQU

On Friday, September 5, 2014 3:20 PM, "n7ebg@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Need a little help.
>I have a TS 820s; how do I connect the radio to the mic input on the PC?
>Do I just connect the speaker output on the 820s to the mic input.
>The goal is to use the PC for CW, RTTY etc; my thanks in advance to all
>Andrew Schneider, N7EBG
>andrew at tklcorp.com or n7ebg at wmsinc dot org
>
>
>
>
>
>

49621. Re: [TS-520_820_530_830] TS 820s connected to WIN XP

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-06 02:07:57 UTC
From: Jan Servaites
Topic: 49619 Message: 49621

I would buy a "SignaLink" USB soundcard, and its very easy from then on.
Its WinXP friendly too.
http://www.dxengineering.com/search/brand/tigertronics?gclid=CI7z35_Ay8ACFbRzMgod7gYAhw
Jan

On 9/5/2014 6:14 PM, n7ebg@... [TS-520_820_530_830] wrote:
>
> Need a little help.
> I have a TS 820s; how do I connect the radio to the mic input on the PC?
> Do I just connect the speaker output on the 820s to the mic input.
> The goal is to use the PC for CW, RTTY etc; my thanks in advance to all
> Andrew Schneider, N7EBG
> andrew at tklcorp.com <mailto:andrew@...> or n7ebg at wmsinc
> dot org
>
>
>

--
Directly from the N8CBX studio, Kettering OH

49622. Re: [TS-520_820_530_830] TS 820s connected to WIN XP

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-06 15:16:39 UTC
From: Mike W5RKL
Topic: 49619 Message: 49622

Andrew, Joe's right. The 820's PHONE PATCH IN transmit audio level is controlled by the MIC gain and the PHONE PATCH OUT receive audio is controlled by the Volume control.

While there are a number of commercial sound card interface ready to use (plug and play), you can also build your own sound card interface at a significant savings. The Internet has plenty of schematics that show how to build your own sound card interface. Parts are available almost everywhere, Radio Shack, eBay, ham fest, Mouser, and DigiKey to name a few. You may have some or all of the parts in your junk box.

I built a PSK/RTTY/SSTV sound card interface and a CAT radio control interface on a single Radio Shack experimental PC board.

Also, understand that PSK, RTTY, SSTV, and other sound card modes are "100% duty cycle". This means there is RF output every time and as long as the transmitter is keyed and data is being sent. The TS-820 is not designed for 100% duty cycle transmissions. Short full power transmissions such as tune up into a 50 ohm dummy load can be tolerated but 2 minute or longer at full power PSK, RTTY, SSTV, and other sound card mode transmissions can easily over stress the final amplifier and power supply leading to possible damage to both. The fan on the rear panel is NOT designed to allow 100% duty cycle. The fan is designed to simply "move air" into and out of the final amplifier. Typical power output using sound card modes is between 20 and 30 watts with transmission times kept to a minimum with receiver periods to allow for transmitter cool down. PSK is a "low power" mode.

73
Mike W5RKL

On 9/5/2014 6:29 PM, Joseph Stiles stilesjoseph@...
[TS-520_820_530_830] wrote:
> Andrew,
>
> The 820 series has "phone patch in/out" jacks on the rear panel, you
> can use those. However,
> I think that both jacks do not have a set level. You should be able to
> set the proper levels using the "mic" control for "patch in" and the
> "AF gain(volume) for "patch out" and your sound card/software.
>
> Take a look at the schematic, you can see how they are wired.
> 73 Joe
> WB7UQU
>
>

> On Friday, September 5, 2014 3:20 PM, "n7ebg@...
> [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:
>
>
>
> Need a little help.
> I have a TS 820s; how do I connect the radio to the mic input on
> the PC?
> Do I just connect the speaker output on the 820s to the mic input.
> The goal is to use the PC for CW, RTTY etc; my thanks in advance
> to all
> Andrew Schneider, N7EBG
> andrew at tklcorp.com <mailto:andrew@...> or n7ebg at
> wmsinc dot org
>
>
>
>

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http://www.avast.com

49623. Re: [TS-520_820_530_830] TS 820s connected to WIN XP

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-06 15:48:34 UTC
From: K5MYJ
Topic: 49619 Message: 49623

I've built two sound card interfaces using old phone patches.

One is a Heathkit HD-15. The other is a Kenwood PC-1A.

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"
----- Original Message -----
From: Mike W5RKL w5rkl@... [TS-520_820_530_830]
To: TS-520_820_530_830@yahoogroups.com
Sent: Saturday, September 06, 2014 8:16 AM
Subject: Re: [TS-520_820_530_830] TS 820s connected to WIN XP

Andrew, Joe's right. The 820's PHONE PATCH IN transmit audio level is controlled by the MIC gain and the PHONE PATCH OUT receive audio is controlled by the Volume control.

While there are a number of commercial sound card interface ready to use (plug and play), you can also build your own sound card interface at a significant savings. The Internet has plenty of schematics that show how to build your own sound card interface. Parts are available almost everywhere, Radio Shack, eBay, ham fest, Mouser, and DigiKey to name a few. You may have some or all of the parts in your junk box.

I built a PSK/RTTY/SSTV sound card interface and a CAT radio control interface on a single Radio Shack experimental PC board.

Also, understand that PSK, RTTY, SSTV, and other sound card modes are "100% duty cycle". This means there is RF output every time and as long as the transmitter is keyed and data is being sent. The TS-820 is not designed for 100% duty cycle transmissions. Short full power transmissions such as tune up into a 50 ohm dummy load can be tolerated but 2 minute or longer at full power PSK, RTTY, SSTV, and other sound card mode transmissions can easily over stress the final amplifier and power supply leading to possible damage to both. The fan on the rear panel is NOT designed to allow 100% duty cycle. The fan is designed to simply "move air" into and out of the final amplifier. Typical power output using sound card modes is between 20 and 30 watts with transmission times kept to a minimum with receiver periods to allow for transmitter cool down. PSK is a "low power" mode.

73
Mike W5RKL

On 9/5/2014 6:29 PM, Joseph Stiles stilesjoseph@... [TS-520_820_530_830] wrote:

Andrew,

The 820 series has "phone patch in/out" jacks on the rear panel, you can use those. However,
I think that both jacks do not have a set level. You should be able to set the proper

levels using the "mic" control for "patch in" and the "AF gain(volume) for "patch out" and your sound card/software.

Take a look at the schematic, you can see how they are wired.

73 Joe
WB7UQU

On Friday, September 5, 2014 3:20 PM, "n7ebg@...g [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Need a little help.
I have a TS 820s; how do I connect the radio to the mic input on the PC?
Do I just connect the speaker output on the 820s to the mic input.
The goal is to use the PC for CW, RTTY etc; my thanks in advance to all
Andrew Schneider, N7EBG
andrew at tklcorp.com or n7ebg at wmsinc dot org

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49624. Parts??

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-07 12:53:24 UTC
From: effirlem@...
Topic: 49624 Message: 49624

Hello group. I have been a member for some time, but this is my first post. I have a TS-530S and it is working very well at the present time. As these radios age, parts are getting harder to find. I noticed that Ken's site (K4EAA) has several "sold out" or "no longer available" notices. My question is this. What parts would you suggest that I have on the shelf "just in case"?

Mel...WD8NNL

49625. Re: [TS-520_820_530_830] Parts??

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-07 15:02:47 UTC
From: Joseph Stiles
Topic: 49624 Message: 49625

Mel,

K4eaa's new style of RL-1

Antenna relay(under metal shield by final amp board-(on the bottom of rig)

Brass shaft coupler(s)

Final cage repair kit

from nr6c.com: new sprockets

Known good pair of final amplifier tubes

Known good 12by7a driver

These are my choices. I'm sure this is going to create a very interesting "discussion"

K4eaa is only one supplier. A7oj, also has items you may want to look at: hybridrestore "dot"com

73 Joe
WB7UQU

On Sunday, September 7, 2014 6:30 AM, "effirlem@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Hello group. I have been a member for some time, but this is my first post. I have a TS-530S and it is working very well at the present time. As these radios age, parts are getting harder to find. I noticed that Ken's site (K4EAA) has several "sold out" or "no longer available" notices. My question is this. What parts would you suggest that I have on the shelf "just in case"?
>
>Mel...WD8NNL
>
>
>
>
>
>
>
>

49626. Re: [TS-520_820_530_830] Parts??

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-07 15:08:22 UTC
From: Mike W5RKL
Topic: 49624 Message: 49626

Hi Mel,

To answer your question, I must ask you a couple of questions.

1. What experience do you have in troubleshooting problems in electronic circuits?
2. What type of test equipment do you have (VTVM, DVM/DMM, frequency counter, signal generator, and oscilloscope) and level of experience using test equipment?
3. Do you have the operator AND service manuals for your TS-530? (available on my website, www.w5rkl.com for downloading)

Having spare parts on hand is not the only thing that's needed. If one is not able to properly and safely troubleshoot a problem using the appropriate test equipment, those spare parts are only good for collecting dust.

73
Mike W5RKL

On 9/7/2014 7:53 AM, effirlem@... [TS-520_820_530_830] wrote:
>
> Hello group. I have been a member for some time, but this is my first
> post. I have a TS-530S and it is working very well at the present
> time. As these radios age, parts are getting harder to find. I
> noticed that Ken's site (K4EAA) has several "sold out" or "no longer
> available" notices. My question is this. What parts would you suggest
> that I have on the shelf "just in case"?
>
> Mel...WD8NNL
>

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49627. Fwd: TS530S L4 setting ?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-07 17:28:18 UTC
From: Sw
Topic: 49627 Message: 49627

> Hello Group,
>
> Just realigning the above and accidentally tweaked L4 the coil near to the antenna slug for 1.8MHz.
>
> I can't see any reference to L4 in the alignment instructions and would like to re set to the correct position.
>
> Can someone assist with the procedure to adjust L4, and also advise what is it's function.
>
> Thanks all
>
> Steve
>
> W8SAW
>
> Sent from my iPad

49628. Re: [TS-520_820_530_830] Fwd: TS530S L4 setting ?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-07 17:43:39 UTC
From: Mike W5RKL
Topic: 49627 Message: 49628

Steve,

L3 and L4 are the IF trap coils. Look at alignment step 15, page 39 in
the TS-530 service manual, for L3 and L4 adjustments.

73
Mike W5RKL

On 9/7/2014 12:28 PM, Sw eurocarsdirect@... [TS-520_820_530_830] wrote:
>
> > Hello Group,
> >
> > Just realigning the above and accidentally tweaked L4 the coil near
> to the antenna slug for 1.8MHz.
> >
> > I can't see any reference to L4 in the alignment instructions and
> would like to re set to the correct position.
> >
> > Can someone assist with the procedure to adjust L4, and also advise
> what is it's function.
> >
> > Thanks all
> >
> > Steve
> >
> > W8SAW
> >
> > Sent from my iPad
>
>

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49629. Re: Parts??

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-07 22:01:01 UTC
From: wagstw46@...
Topic: 49624 Message: 49629

Joe

Kens new relay is not the Ant TR relay for the TS530.

It is the replacement for what I call the Aux relay which is the Omron LZN4 4PDT flat pack relay.

This is the relay on the TS530S IF board and the TS830S AF board.

Agree should buy one.

Terry K9TW

49630. RE: [TS-520_820_530_830] Re: Parts??

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-08 01:15:25 UTC
From: fpath fpath
Topic: 49624 Message: 49630

The IF board relay is a must as previously mentioned. Problem with having spare tubes is if you don't rotate them through your radio, you could end up having a flashover when you change them out. I change mine around every 6 months. I'd go for a new ant relay, not cheap but necessary. Unless you know how to trouble shoot, no real point in having lots of spares. Have you changed out your HV caps? If not this is a must in my opinion, and if you do do it, change the IF board relay at the same time.

73s

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: TS-520_820_530_830@yahoogroups.com
Date: Sun, 7 Sep 2014 15:01:01 -0700
Subject: [TS-520_820_530_830] Re: Parts??

Joe

Kens new relay is not the Ant TR relay for the TS530.

It is the replacement for what I call the Aux relay which is the Omron LZN4 4PDT flat pack relay.

This is the relay on the TS530S IF board and the TS830S AF board.

Agree should buy one.

Terry K9TW

49631. Re: [TS-520_820_530_830] Re: Parts??

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-08 01:24:00 UTC
From: Jan Servaites
Topic: 49624 Message: 49631

The 530 has a solder-in antenna relay (a pain to replace). If you replace that relay (none available that I could find), do a socket style relay conversion, to look like the 830.
I finally have the new plug-in, relay parts for my 530 and will install later this year.
Jan N8CBX

--
Directly from the N8CBX studio, Kettering OH

49632. Re: [TS-520_820_530_830] Fwd: TS530S L4 setting ?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-08 10:04:28 UTC
From: wagstw46@...
Topic: 49627 Message: 49632

If Steve doesnt have AF VTVM or O-scope can just listen to the 8.830mhz IF tone level in the speaker and adjust L3 and L4 for the lowest audio level. Can get a very deep null that you can barely hear.

80dB injection level = -33dBm or 5mv.

Terry

49633. Re: [TS-520_820_530_830] Parts??

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-08 12:22:52 UTC
From: effirlem@...
Topic: 49624 Message: 49633

Mike, let me say thanks for the reply and I will try to answer your questions.

1. experience.... Some. I have been interested in electronics for many years, but only at the hobby level. That is to say that my work background is mechanical, retired machinist. In my early years as a ham I had Heathkit equipment that I kept aligned and repaired. I once brought a lightning struck micro wave back to life.
Also had a cousin that was in Civil Air Patrol. His FT-227R jumped frequency and I was able to fix it for him. Converted an old CB to 10 meters. I do not by any means consider myself an electronics whiz, but I can follow a schematic and figure out(most of the time) what things are suppose to happen. And too, I am not afraid to ask those more knowledgeable than myself for help.

2. equipment... At the present time I have the following, VTVM, DMM, and a 20MHz scope. I had a frequency counter at one time, but lost it in a flooded basement. The DMM has a freq counted built in, but only up to 7MHz. The scope....I must confess that I have had the scope for several years, but I am uncomfortable/unsure of how to use it. I realize that it is a important tool for RF work and at this time I have been watching W2AEW's YouTube videos and trying to learn more about the scope.

3. manuals... I received the operators manual when I bought the 530. I have also downloaded the manuals that you spoke of.

And to the others that responded to my post, I thank you and will explore your suggestions.

Mel... WD8NNL

49634. Re: Parts??

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-09 04:06:45 UTC
From: stilesjoseph@...
Topic: 49624 Message: 49634

Terry,

I agree with you. It was not my intention to indicate that Ken's replacement "RL-1" was a replacement for the T/R relay.

I should have used numbers to indicate change of thought or information..instead of triple spacing as I did.

73 Joe
wb7uqu

49635. Transmitting with lower power.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-09 16:40:10 UTC
From: jcidlik@...
Topic: 49635 Message: 49635

On my 830s; It is putting out about 115watts. I want to use my Ameritron AL-80. But I want to drive it with about 70 watts. How do I lower the RF power output on the Kenwood? I'm thinking to turn down the drive. Am I correct. Thanks, Cid K2CID

49636. Re: [TS-520_820_530_830] Transmitting with lower power.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-09 17:51:35 UTC
From: Mike W5RKL
Topic: 49635 Message: 49636

Hi Cid,

Are you suggesting one of the following when you say:

"Turn down the drive"

Adjust the "DRIVE" control on the upper right corner of the front panel to reduce power output? The answer is "No!!!" You should NEVER adjust the "DRIVE" control to reduce power output.

Adjust the "CAR" control during TUNE/CW mode tune up to "preset" the RF output level? The answer is "No". The CAR control has no control over power output in sideband (USB/LSB), the CAR control is disabled in sideband modes.

There is a simple single transistor, 3 fixed resistors and one variable resistor (pot) that will accomplish the power reduction you are looking for. You will have to log onto Yahoo Groups using your web browser, use the following link to get to the group log in page:

https://login.yahoo.com/config/login?.done=http://groups.yahoo.com%2f&.src=ygrp&.intl=us

When the log in page comes up, enter your user name and password. Once logged in to Yahoo Groups, select the KENWOOD TS-520_820_530_830 group. When the main page comes up, click on "Files" (top middle of the screen below the search text box). When the Files page comes up scroll down and click on

"Kenwood Hybrid QRP circuit.pdf"

This simple circuit will allow you to reduce power output in sideband mode by applying a negative DC voltage to the transceiver's "RAL" and ground connection on the rear panels "REMOTE" 7 pin DIN socket.

73
Mike W5RKL

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http://www.avast.com

49637. Re: [TS-520_820_530_830] Transmitting with lower power.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-09 18:08:44 UTC
From: Mark Gilger
Topic: 49635 Message: 49637

Turning down the Drive won't work, what only
works for CW mode. You might want to explore
controlling the ALC though the back panel
accessory plug. There is a circuit that simply
takes a battery and a potentiometer that works
nice. Here is the simplest ALC mod.

http://www.vss.pl/mods.dk/ts520qrp.gif

There was also Kenwood Serice bullitiin #2 that
shows you to modify a TS-520 for novice 75 watt
operation. You could make the same change to work
on the 830. The service bullitin can be found
several places. Here it is on my web site, page #22.

http://www.wb4hfn.com/KENWOOD/Articles/SERVICE%20NOTES%20-%20ALL%20HYBRIDS.pdf

You can also just lower your mic gain, but you
would need a peak reading watt meter between the
amp and radio to see how many watts you were pumping into the AL-80.

Mark, WB0IQK

At 12:40 PM 9/9/2014, jcidlik@... [TS-520_820_530_830] wrote:
>
>
>On my 830s; It is putting out about 115watts. I
>want to use my Ameritron AL-80. But I want to
>drive it with about 70 watts. How do I lower
>the RF power output on the Kenwood? I'm
>thinking to turn down the drive. Am I correct. Thanks, Cid K2CID
>
>
>

49638. Re: [TS-520_820_530_830] Transmitting with lower power.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-10 01:40:22 UTC
From: jcidlik@...
Topic: 49635 Message: 49638

Thanks. I forgot to mention I will not be using cw. With sideband I don't think I will ever peak @ 115watts. I will try this simple fix. Thanks again and I'll keep you posted as to the outcome. 73 Cid, K2Cid

49639. Re: [TS-520_820_530_830] Transmitting with lower power.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-10 03:40:40 UTC
From: W5RKL
Topic: 49635 Message: 49639

Cid,

I would connect your exciter to the AL-80 amplifier as shown in the AL-80 manual, including connecting the amplifier's ALC connection to the exciter. Make the ALC adjustments called in the amplifier's manual, and operate the combination properly as outlined in the manuals, you should have no problems. Thoroughly read the manuals, exciter and amplifier, before you attempt to operate them together.

I have an Ameritron AL-811 (3 tube) amp. I don't throttle down the drive from my exciters (Heathkit HW-101, SB-100, Drake T4XB/C) I simply pay attention and operate the exciters and amplifier properly. I have been doing this for years and never experienced any problems or tube failure in the amplifier.

73
Mike W5RKL

On 9/9/2014 8:40 PM, jcidlik@... [TS-520_820_530_830] wrote:
>
> Thanks. I forgot to mention I will not be using cw. With sideband I
> don't think I will ever peak @ 115watts. I will try this simple fix.
> Thanks again and I'll keep you posted as to the outcome. 73 Cid, K2Cid
>
>

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49640. HRD & the 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-12 18:26:02 UTC
From: jcidlik@...
Topic: 49640 Message: 49640

I am new to the 830. Is there a way to hook up this radio to a computer to run HRD?
Thanks, 73 Cid, K2CID

49641. Re: [TS-520_820_530_830] HRD & the 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-12 18:44:20 UTC
From: Mike W5RKL
Topic: 49640 Message: 49641

Cid,

The answer is yes.

The receive audio connection to the sound card interface is at the 830's speaker connection.
The transmit audio connection to the sound card interface is at the 830's microphone socket pin 1 and ground to pin 4.

Follow the sound card interface instruction manual settings and you should have no problem.

Also, I recommend you turn the speech processor OFF and adjust the MIC gain for no more than 25 watts output and keep transmission times short, 1 to 2 minutes at most.

The 830's ALC meter in sideband transmit should remain at "zero".

73
Mike W5RKL

On 9/12/2014 1:26 PM, jcidlik@... [TS-520_820_530_830] wrote:
>
> I am new to the 830. Is there a way to hook up this radio to a
> computer to run HRD?
>
> Thanks, 73 Cid, K2CID
>
>

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49642. RE: [TS-520_820_530_830] HRD & the 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-13 02:28:08 UTC
From: Brad Allen
Topic: 49640 Message: 49642

Most likely not and even if it could, the most you could do is change frequency. Not worth the cost of HRD for that.

From: TS-520_820_530_830@yahoogroups.com
[mailto:TS-520_820_530_830@yahoogroups.com]
Sent: Friday, September 12, 2014 2:26 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: [TS-520_820_530_830] HRD & the 830s

I am new to the 830. Is there a way to hook up this radio to a computer to run HRD?

Thanks, 73 Cid, K2CID

49643. RE: [TS-520_820_530_830] HRD & the 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-13 15:55:23 UTC
From: n7iqv@...
Topic: 49640 Message: 49643

This sure settles the question. It's definitely YES. And NO.

Anybody want to borrow my magic coin toss quarter?

John/N7IQV

49644. RE: [TS-520_820_530_830] HRD & the 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-13 16:24:03 UTC
From: w5rkl@...
Topic: 49640 Message: 49644

You can use DM-780 which contains the sound card digital mode software such as PSk31/64, RTTY, CW, and other modes, will work with most sound card interfaces and the TS-830.

HRD radio control features that allows the operator to change frequencies, change bands, see S meter, and display the radio's frequency, will not work with a TS-830.

73
Mike W5RKL

49645. 820S CW

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-13 18:11:38 UTC
From: light316@...
Topic: 49645 Message: 49645

I have a TS820S that I just purchased and I can hear CW in USB/LSB at the low end of the band (20m), but when I switch from USB/LSB to CW, the receive signal disappears. So I am not sure how I could communicate there. I think it has a CW filter installed.

73s,
Mark (New Ham Operator)
K9MVC

49646. Re: [TS-520_820_530_830] 820S CW

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-13 19:34:00 UTC
From: Mike W5RKL
Topic: 49645 Message: 49646
Attachments: 1 described; binary payloads are missing from this source WARC

Mark,

You can see if the CW filter is installed by removing the top cover of your 820. The CW filter, if installed, will be on the IF UNIT board which is on the "Left side" of the 820, 820 right side up, front panel facing you.

Do you have the TS-820 operator's manual? If not then I highly recommend you download it and spend time reading it. You can download the 820 operator's manual from my website

www.w5rkl.com

Click on the "Manuals Mods and Docs" link at the top of the page. When the Manuals page comes up, scroll down to the TS-820 section and click on the operator's manual link.

Looking at the IF UNIT board on the left of the 820, the CW filter will be a large square metal box soldered to the board. The picture below is the IF UNIT board in a TS-820. Notice the square BLUE labeled metal enclosure on the left of the board? That's the sideband filter. Directly above the sideband filter is where the CW filter will be "IF" the CW filter is installed. The board shown in the picture below does NOT have a CW filter installed!!

You will need to read page 34, section 6.4 ACCESSORIES, INSTALLING THE CW FILTER (YG-88C) paragraph, in the TS-820 operator's manual.

Based on what you have said, the receiver appears dead when the MODE switch is set to CW, I suspect the CW filter is NOT installed on the IF UNIT board in your TS-820.

73
Mike W5RKL

On 9/13/2014 1:11 PM, light316@... [TS-520_820_530_830] wrote:
>
> I have a TS820S that I just purchased and I can hear CW in USB/LSB at
> the low end of the band (20m), but when I switch from USB/LSB to CW,
> the receive signal disappears. So I am not sure how I could
> communicate there. I think it has a CW filter installed.
>
>
> 73s,
>
> Mark (New Ham Operator)

>
> K9MVC
>
>
>

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49647. Re: [TS-520_820_530_830] 820S CW

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-13 19:55:14 UTC
From: Gregory Graham
Topic: 49645 Message: 49647
Attachments: 1 described; binary payloads are missing from this source WARC

Mark
Exactly what I would expect to happen. The pass band width is different for SSB and for CW. So, if you could hear a signal in the pass band of SSB then switched to CW the signal could be out of the CW pass band. That is what I would expect, and that's how it works on my TS-820 with out a CW filter. But what do I know?

Gregory
NR6C

On 9/13/2014 12:34 PM, Mike W5RKL w5rkl@... [TS-520_820_530_830] wrote:
>
> Mark,
>
> You can see if the CW filter is installed by removing the top cover of
> your 820. The CW filter, if installed, will be on the IF UNIT board
> which is on the "Left side" of the 820, 820 right side up, front panel
> facing you.
>
> Do you have the TS-820 operator's manual? If not then I highly
> recommend you download it and spend time reading it. You can download
> the 820 operator's manual from my website
>
> www.w5rkl.com
>
> Click on the "Manuals Mods and Docs" link at the top of the page. When
> the Manuals page comes up, scroll down to the TS-820 section and click
> on the operator's manual link.
>
> Looking at the IF UNIT board on the left of the 820, the CW filter
> will be a large square metal box soldered to the board. The picture
> below is the IF UNIT board in a TS-820. Notice the square BLUE labeled
> metal enclosure on the left of the board? That's the sideband filter.
> Directly above the sideband filter is where the CW filter will be "IF"
> the CW filter is installed. The board shown in the picture below does
> NOT have a CW filter installed!!
>
>
>
> You will need to read page 34, section 6.4 ACCESSORIES, INSTALLING THE
> CW FILTER (YG-88C) paragraph, in the TS-820 operator's manual.
>
> Based on what you have said, the receiver appears dead when the MODE

> switch is set to CW, I suspect the CW filter is NOT installed on the
> IF UNIT board in your TS-820.
>
> 73
> Mike W5RKL
>
>
> On 9/13/2014 1:11 PM, light316@... [TS-520_820_530_830] wrote:
>>
>> I have a TS820S that I just purchased and I can hear CW in USB/LSB at
>> the low end of the band (20m), but when I switch from USB/LSB to CW,
>> the receive signal disappears. So I am not sure how I could
>> communicate there. I think it has a CW filter installed.
>>
>>
>> 73s,
>>
>> Mark (New Ham Operator)
>>
>> K9MVC
>>
>>
>
>
>
> ---
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> <http://www.avast.com/> protection is active.
>
>
>

49648. Re: [TS-520_820_530_830] 820S CW

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-13 20:11:18 UTC
From: Joseph Stiles
Topic: 49645 Message: 49648

Mark,

Congrats on your purchase. Mike-w5rkl, is essentially correct on the location of the CW filter.
If you can see the letters "CW" right above the "SSB crystal filter," the CW filter is NOT installed. The 820(S) will & should, receive CW fine even though no CW filter is present. IF the CW filter is present, it will slightly attenuate signals...especially if they are weak to start with...or the filter(if present) may be the problem. Tune around and find a good strong CW signal while in SSB mode...then switch to CW mode...can you still hear the signal? Remember..USB and LSB are on either side of the indicated frequency on the dial.....you may have to tune up or down slightly to get the CW signal. If not, your rig may have other problems.
As Mike suggested, get the Operating Manual, and read it, and read it some more. The 820S is a great rig...I've had mine now since about 1983...with no CW filter installed either!

Do you know the history of the rig? What is your knowledge base regarding electronics/radio and, do you have any diagnostic equipment?

73 Joe
WB7UQU

On Saturday, September 13, 2014 12:34 PM, "Mike W5RKL w5rkl@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Mark,
>
>You can see if the CW filter is installed by removing the top cover of your 820. The CW filter, if installed, will be on the IF UNIT board which is on the "Left side" of the 820, 820 right side up, front panel facing you.
>
>Do you have the TS-820 operator's manual? If not then I highly recommend you download it and spend time reading it. You can download the 820 operator's manual from my website
>
>www.w5rkl.com
>
>Click on the "Manuals Mods and Docs" link at the top of the page. When the Manuals page comes up, scroll down to the TS-820 section and click on the operator's manual link.
>
>Looking at the IF UNIT board on the left of the 820, the CW filter will be a large square metal box soldered to the board. The

picture below is the IF UNIT board in a TS-820. Notice the square
BLUE labeled metal enclosure on the left of the board? That's the
sideband filter. Directly above the sideband filter is where the
CW filter will be "IF" the CW filter is installed. The board shown
in the picture below does NOT have a CW filter installed!!
>
>
>
>You will need to read page 34, section 6.4 ACCESSORIES, INSTALLING
THE CW FILTER (YG-88C) paragraph, in the TS-820 operator's manual.
>
>Based on what you have said, the receiver appears dead when the MODE
switch is set to CW, I suspect the CW filter is NOT installed on the
IF UNIT board in your TS-820.
>
>73
>Mike W5RKL
>
>
>
>On 9/13/2014 1:11 PM, light316@... [TS-520_820_530_830] wrote:
>
>
>>I have a TS820S that I just purchased and I can hear CW in USB/LSB at the low end of the
band (20m), but when I switch from USB/LSB to CW, the receive signal disappears. So I am
not sure how I could communicate there. I think it has a CW filter installed.
>>
>>
>>73s,
>>Mark (New Ham Operator)
>>K9MVC
>>
>>
>
>
>>_____
>
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active.
>
>
>
>

49649. Re: [TS-520_820_530_830] 820S CW

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-13 21:24:47 UTC
From: K5MYJ
Topic: 49645 Message: 49649

Can you hear the calibrator in CW?

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"
----- Original Message -----
From: Joseph Stiles stilesjoseph@... [TS-520_820_530_830]
To: TS-520_820_530_830@yahoogroups.com
Sent: Saturday, September 13, 2014 1:11 PM
Subject: Re: [TS-520_820_530_830] 820S CW

Mark,

Congrats on your purchase. Mike-w5rkl, is essentially correct on the location of the CW filter.
If you can see the letters "CW" right above the "SSB crystal filter," the CW filter is NOT installed. The 820(S) will & should, receive CW fine even though no CW filter is present. IF the CW filter is present, it will slightly attenuate signals...especially if they are weak to start with...or the filter(if present) may be the problem. Tune around and find a good strong CW signal while in SSB mode...then switch to CW mode...can you still hear the signal? Remember..USB and LSB are on either side of the indicated frequency on the dial.....you may have to tune up or down slightly to get the CW signal. If not, your rig may have other problems.
As Mike suggested, get the Operating Manual, and read it, and read it some more. The 820S is a great rig...I've had mine now since about 1983...with no CW filter installed either!

Do you know the history of the rig? What is your knowledge base regarding electronics/radio and, do you have any diagnostic equipment?

73 Joe
WB7UQU

On Saturday, September 13, 2014 12:34 PM, "Mike W5RKL w5rkl@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Mark,

You can see if the CW filter is installed by removing the top cover of your 820. The CW filter, if installed, will be on the IF UNIT board which is on the "Left side" of the 820, 820 right side up, front panel facing you.

Do you have the TS-820 operator's manual? If not then I highly recommend you download it and spend time reading it. You can download the 820 operator's manual from my website

www.w5rkl.com

Click on the "Manuals Mods and Docs" link at the top of the page. When the Manuals page comes up, scroll down to the TS-820 section and click on the operator's manual link.

Looking at the IF UNIT board on the left of the 820, the CW filter will be a large square metal box soldered to the board. The picture below is the IF UNIT board in a TS-820. Notice the square BLUE labeled metal enclosure on the left of the board? That's the sideband filter. Directly above the sideband filter is where the CW filter will be "IF" the CW filter is installed. The board shown in the picture below does NOT have a CW filter installed!!

You will need to read page 34, section 6.4 ACCESSORIES, INSTALLING THE CW FILTER (YG-88C) paragraph, in the TS-820 operator's manual.

Based on what you have said, the receiver appears dead when the MODE switch is set to CW, I suspect the CW filter is NOT installed on the IF UNIT board in your TS-820.

73
Mike W5RKL

On 9/13/2014 1:11 PM, light316@... [TS-520_820_530_830] wrote:

I have a TS820S that I just purchased and I can hear CW in USB/LSB at the low end of the band (20m), but when I switch from USB/LSB to CW, the receive signal disappears. So I am not sure how I could communicate there. I think it has a CW filter installed.

73s,
Mark (New Ham Operator)
K9MVC

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49650. Re: 820S CW

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-14 07:08:08 UTC
From: light316@...
Topic: 49645 Message: 49650

Hi to All,

Great comments! Thanks to all who replied...

I checked and I do have a CW filter. Yes, it somewhat attenuates the signal from SSB. Good news... I was playing around and I tried the IF shift and I was able to hear the signal so I assume that I would be able to operate there. I did not try to break in as yet I am way too slow at CW.

Some history... I got my license back in April of this year, but just got my first HF rig last month. I picked it up locally (Chicago area) from a guy in the area whose friend passed away. The friend's widow gave it to him and I bought it from him. It seems to be in very good working condition other than the flicker of the frequency display. I got manuals with it and I am reading it and learning the knobs on the 820S. I am also learning CW and it is going slooooly, but I am getting there. I bought an old J-38 key on ebay and I'm trying to get the send part. I have only been trying to read. I also just bought a used GAP Titan DX antenna that seems to be working fine. I have yet to check the SWR, but they claim no tuner is needed. I have made a few contacts on 20m and 40m.

As for me, I have a background in electronics, but it has been a long time since I used it. I have a cheap VM and also I have an oscilloscope in the crawl space downstairs, but I don't think it has any leads/probes.

This sounds like a really cool rig made back when I was in high school. I hope I can keep it going another ~35 years.

73s, Mark - K9MVC

49651. Re: [TS-520_820_530_830] Re: 820S CW

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-14 20:00:18 UTC
From: Mike W5RKL
Topic: 49645 Message: 49651

Mark,

The CW filter is suppose to provide a much narrow bandpass for the IF signal to travel through. Therefore, the CW signal is going to sound different with the MODE switch set to CW with the CW filter installed, than the CW signal sound with the MODE switch set to USB Or LSB.

The IF Shift control should be normally set to 12 o'clock, the knob line pointing straight up. The IF SHIFT has a detent at 12 o'clock, you should feel it as you rotate either side of 12 o'clock.

You didn't say if you have the operator's manual for the TS-820 or not. If you don't have it you can download it free from my website

www.w5rkl.com

Click on Manuals, Mods and Docs link at the top of the page. When the manual page comes up, scroll down the TS-820/TS-820S section and download the operator's manual then spend time reading the manual so you understand what each control is for and how to use those controls properly and safely.

73
Mike W5RKL

On 9/14/2014 2:08 AM, light316@... [TS-520_820_530_830] wrote:
>
> Hi to All,
>
>
> Great comments! Thanks to all who replied...
>
>
> I checked and I do have a CW filter. Yes, it somewhat attenuates the
> signal from SSB. Good news... I was playing around and I tried
> the IF shift and I was able to hear the signal so I assume that I
> would be able to operate there. I did not try to break in as yet I am
> way too slow at CW.
>
>
> Some history... I got my license back in April of this year, but just
> got my first HF rig last month. I picked it up locally (Chicago area)
> from a guy in the area whose friend passed away. The friend's widow
> gave it to him and I bought it from him. It seems to be in very good
> working condition other than the flicker of the frequency display. I
> got manuals with it and I am reading it and learning the knobs on the
> 820S. I am also learning CW and it is going sloooooly, but I am

> getting there. I bought an old J-38 key on ebay and I'm trying to get
> the send part. I have only been trying to read. I also just bought a
> used GAP Titan DX antenna that seems to be working fine. I have yet
> to check the SWR, but they claim no tuner is needed. I have made a
> few contacts on 20m and 40m.
>
>
> As for me, I have a background in electronics, but it has been a long
> time since I used it. I have a cheap VM and also I have an
> oscilloscope in the crawl space downstairs, but I don't think it has
> any leads/probes.
>
>
> This sounds like a really cool rig made back when I was in high
> school. I hope I can keep it going another ~35 years.
>
>
> 73s, Mark - K9MVC
>
>

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49652. HYBRID NET UPDATE (Sept 14, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-14 20:54:52 UTC
From: Mark Gilger
Topic: 49652 Message: 49652

Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm
Â
The net started it's existence on November 1st,
2012. The yearly check-in totals are posted at
the bottom of this message. It showed we had a
10% increase in our Saturday check-ins and an 8%
on Sunday as compared to the 2012 check-ins.Â

The Saturday net was run by me, WB0IQK. There
were 18 stations checking in under good band
conditions. We had the following number of radios checking in.

3 running TS-520(x)

2 running TS-530(x)

1 running TS-820(x)

3 running TS-830S

0 running TS-511

0 running 599 twins

The rest were running non Kenwood hybrid equipment.

I was running my TS-940S with an L4B amplifier.

The Sunday net was run by me, WB0IQK. There were
13 stations checking in under good band
conditions. We had the following number of radios checking in.

3 running TS-520(x)

2 running TS-530(x)

2 running TS-820(x)

2 running TS-830S

0 running TS-511

2 running 599 twins

The rest were running non Kenwood hybrid equipment.

I was running my TS-820s twins (TS-820S + R820).

We have been having several people checking in
regularly with their TS-430, TS-440, and
TS-940â□□s, which of course is not a hybrid,
although over 30+ years old. Everyone is welcome
as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a
net control station, please send me an email.
Currently it's just myself, WB2KNR and WB0SGA. I
would like to get several more. If we do, we can
alternate so everyone might be on a 3-4 week
rotation. It's a lot of fun and a good way to
make sure you station is optimized.

For anyone that has not heard, we have a new web
site that WB4HFN is hosting. He currently has a
very nice site for Drake, Collins and Heathkit
and now Kenwood Hybrids. Good quality manuals
plus sale flyers and brochures will be found
here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 □ Oct. 2012Â Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins
November 2013, Saturdayâ□□s net total = 94, Sundayâ□□s total = 85
December 2013, Saturdayâ□□s net total = 87, Sundayâ□□s total = 103
January 2014, Saturdayâ□□s net total = 71, Sundayâ□□s total = 82
February 2014, Saturdayâ□□s net total = 80, Sundayâ□□s total = 85
March 2014, Saturdayâ□□s net total = 82, Sundayâ□□s total = 73
April 2014, Saturdayâ□□s net total = 64, Sundayâ□□s total =43
May 2014, Saturdayâ□□s net total = 66, Sundayâ□□s total = 35
June 2014, Saturdayâ□□s net total = 43, Sundayâ□□s total = 59
July 2014, Saturdayâ□□s net total = 24, Sundayâ□□s total = 46
August 2014, Saturdayâ□□s net total = 62, Sundayâ□□s total = 53
September 2014, Saturday's net total = 31, Sunday's total = 13 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

49653. How to set VFO-820 VFO endpoints

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-15 17:16:36 UTC
From: Chris Kepus
Topic: 49653 Message: 49653

Hey Kenwoodies,

I'm working on a VFO-820 that is cookin' along quite well with a very minor exception. It's off by a few Khz at the endpoints (as seen on a frequency counter - can't really see it on the dial markings). I've been through the 820 (S) service manual and the VFO-820 manual and list archives and the usual internet searches but no joy re: adjusting endpoints. Then it occurs to me. if I'm using either a 820 or 820S, I'm looking at a digital readout which, according to the schematic, is showing the VFO-820 frequency. Correct? Hence, it doesn't matter a whit if there is a slight difference when I am playing with the VFO-820 standalone and get the results mentioned above. I was about to relax and forget about this but being a Virgo is a real handicap sometimes.sigh.

So, here I am taking up bandwidth seeking affirmation. Am I right in my conclusion (it doesn't matter)..or not?

PS: Is there a way to adjust the endpoints.even if it doesn't matter?

PPS: This VFO-820 is surplus to my needs. If you are wishing you had a really nice one, send me a private message and we'll talk.

Thanks.

Chris

W7JPG

"Any day above ground is a good day"

[Non-text portions of this message have been removed]

49654. Re: [TS-520_820_530_830] How to set VFO-820 VFO endpoints

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-15 17:37:14 UTC
From: Joseph Stiles
Topic: 49653 Message: 49654

Chris,

Look on Pg 48 of the 820(S) service manual, Section 2-11 "VFO adjustment."

I would also check for proper calibration of the DG-1..same page..Section 3 and frequencies listed in the table on Pg 45 Section 2-1(3)

73 Joe
WB7UQU

On Monday, September 15, 2014 10:16 AM, "'Chris Kepus' ckepus@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Hey Kenwoodies,
>
>I'm working on a VFO-820 that is cookin' along quite well with a very minor
>exception. It's off by a few Khz at the endpoints (as seen on a frequency
>counter - can't really see it on the dial markings). I've been through the
>820 (S) service manual and the VFO-820 manual and list archives and the
>usual internet searches but no joy re: adjusting endpoints. Then it occurs
>to me. if I'm using either a 820 or 820S, I'm looking at a digital readout
>which, according to the schematic, is showing the VFO-820 frequency.
>Correct? Hence, it doesn't matter a whit if there is a slight difference
>when I am playing with the VFO-820 standalone and get the results mentioned
>above. I was about to relax and forget about this but being a Virgo is a
>real handicap sometimes.sigh.
>
>So, here I am taking up bandwidth seeking affirmation. Am I right in my
>conclusion (it doesn't matter)..or not?
>
>PS: Is there a way to adjust the endpoints.even if it doesn't matter?
>
>PPS: This VFO-820 is surplus to my needs. If you are wishing you had a
>really nice one, send me a private message and we'll talk.
>
>Thanks.
>
>Chris
>
>W7JPG
>
>"Any day above ground is a good day"
>

>[Non-text portions of this message have been removed]
>
>
>
>
>

49655. Re: [TS-520_820_530_830] How to set VFO-820 VFO endpoints

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-15 18:07:16 UTC
From: Mike W5RKL
Topic: 49653 Message: 49655

Chris,

You said,

"/*I'm looking at a digital readout which, according to the schematic,
is showing the VFO-820 frequency.*//*C*//*orrect?*/"

No, not true.

The digital display is showing the actual operating frequency. The VFOs,
whether internal or external, operate over a frequency range from
5.500Mhz to 5.000Mhz. This is clearly shown on the TS-820S block diagram
on pages 5 and 24 in the 820 service manual.

73
Mike W5RKL

On 9/15/2014 12:16 PM, 'Chris Kepus' ckepus@...
[TS-520_820_530_830] wrote:
>
> Hey Kenwoodies,
>
> I'm working on a VFO-820 that is cookin' along quite well with a very
> minor
> exception. It's off by a few Khz at the endpoints (as seen on a frequency
> counter - can't really see it on the dial markings). I've been through the
> 820 (S) service manual and the VFO-820 manual and list archives and the
> usual internet searches but no joy re: adjusting endpoints. Then it occurs
> to me. if I'm using either a 820 or 820S, I'm looking at a digital readout
> which, according to the schematic, is showing the VFO-820 frequency.
> Correct? Hence, it doesn't matter a whit if there is a slight difference
> when I am playing with the VFO-820 standalone and get the results
> mentioned
> above. I was about to relax and forget about this but being a Virgo is a
> real handicap sometimes.sigh.
>
> So, here I am taking up bandwidth seeking affirmation. Am I right in my
> conclusion (it doesn't matter)..or not?
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> PS: Is there a way to adjust the endpoints.even if it doesn't matter?
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> PPS: This VFO-820 is surplus to my needs. If you are wishing you had a
> really nice one, send me a private message and we'll talk.
>
> Thanks.
>

> Chris
>
> W7JPG
>
> "Any day above ground is a good day"
>
> [Non-text portions of this message have been removed]
>
>

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49656. TS-530s issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-15 18:12:03 UTC
From: john
Topic: 49656 Message: 49656

My TS-530s was working ok when just RXing (still no antenna) The setup is scanner aerial into the AT-230 ATU and then into the TS.

While tuning around the bands I was getting stations OK.

Unplugged the set and took it to the local radio club so they could show me how to setup the radio.

Setup the radio at the club and they started setting up the radio for TXing ATU set to Dummy and proceeded to start setting the load etc, but this didn't show much in the way of output on the ATU.

A bit more fiddling and then the dummy load was connected (it was thought that the ATU came with a Dummy load built-in). Eventually after some playing around it was decided that three valves might be at fault. Luckily someone in the club has a set I can have and also has a valve tester.

While trying to get the radio setup we noticed that if the ATU or Dummy load was connected to the main antenna input on the radio (not via ATU) the needle would bounce around as if there was a bad connection.

So, I took the radio home and set it up on my desk as it was before. I also noticed that when tuning around the bands, the needle will bounce around as if there is a bad connection. So I tried without using the ATU and connecting the scanner antenna to the back of the radio and the same was observed. With nothing connected via the antenna socket the radio behaves and the needle stays stationary when tuning around.

I am going to remove the three valves and take them to the club for the next meet and pick up the new valves.

Any thoughts people?

Thanks

John , M6JPE

UK.

49657. Re: [TS-520_820_530_830] TS-530s issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-15 18:59:26 UTC
From: Mike W5RKL
Topic: 49656 Message: 49657

John,

The Kenwood AT-230 tuner does not have a built in 50 ohm dummy load.

Before you waste money on new driver and final tubes, did you check the rear panel 530's "SG" switch to ensure it's in the "ON" position? Handling the 530 can easily result in that switch be moved to the OFF position which will result in no transmit RF output during tuning or operating of the 530.

Using a scanner antenna is not a good idea. The scanner antenna is designed for VHF work and the 530 is designed to operate on HF frequencies. The AT-230 is designed to provide a match to amateur band antennas between 1.8Mhz and 30Mhz, not VHF frequencies (see the AT-230 manual for details).

Why not build a simple HF dipole antenna, you will have much better luck with the correct antenna than using a VHF scanner antenna. Use the formula

468 / <freq in Mhz>

to determine the initial starting point length of the antenna before trimming each end the same amount for lowest SWR.

For example, a 40 meter dipole will have an end to end length of approximately 66 feet at 7.1Mhz (468 / 7.1 = 65.915)

This antenna can be fed with 50 or 75 ohm coax.

73
Mike W5RKL

On 9/15/2014 1:12 PM, 'john' john@...
[TS-520_820_530_830] wrote:
>
> My TS-530s was working ok when just RXing (still no antenna) The setup
> is scanner aerial into the AT-230 ATU and then into the TS.
>
> While tuning around the bands I was getting stations OK.
>
> Unplugged the set and took it to the local radio club so they could
> show me how to setup the radio.
>
>
> Setup the radio at the club and they started setting up the radio for
> TXing ATU set to Dummy and proceeded to start setting the load etc,
> but this didn’t show much in the way of output on the ATU.

>
> A bit more fiddling and then the dummy load was connected (it was
> thought that the ATU came with a Dummy load built-in). Eventually
> after some playing around it was decided that three valves might be at
> fault. Luckily someone in the club has a set I can have and also has a
> valve tester.
>
> While trying to get the radio setup we noticed that if the ATU or
> Dummy load was connected to the main antenna input on the radio (not
> via ATU) the needle would bounce around as if there was a bad connection.
>
> So, I took the radio home and set it up on my desk as it was before. I
> also noticed that when tuning around the bands, the needle will bounce
> around as if there is a bad connection. So I tried without using the
> ATU and connecting the scanner antenna to the back of the radio and
> the same was observed. With nothing connected via the antenna socket
> the radio behaves and the needle stays stationary when tuning around.
>
> I am going to remove the three valves and take them to the club for
> the next meet and pick up the new valves.
>
> Any thoughts people?
>
> Thanks
>
> John, M6JPE
>
> UK.
>
>

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49658. Re: [TS-520_820_530_830] TS-530s issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-15 19:02:23 UTC
From: Mike W5RKL
Topic: 49656 Message: 49658

I forgot to mention. The SG switch only affects the final amplifier during transmit. The receive signal does NOT travel/flow through the transmitter's driver and final amplifier stages. Wasting money buy/obtaining NOS driver and final tubes because the receive is poor will not improve the receive signals.

73
Mike W5RKL

On 9/15/2014 1:59 PM, Mike W5RKL w5rkl@... [TS-520_820_530_830] wrote:
>
> John,
>
> The Kenwood AT-230 tuner does not have a built in 50 ohm dummy load.
>
> Before you waste money on new driver and final tubes, did you check
> the rear panel 530's "SG" switch to ensure it's in the "ON" position?
> Handling the 530 can easily result in that switch be moved to the OFF
> position which will result in no transmit RF output during tuning or
> operating of the 530.
>
> Using a scanner antenna is not a good idea. The scanner antenna is
> designed for VHF work and the 530 is designed to operate on HF
> frequencies. The AT-230 is designed to provide a match to amateur band
> antennas between 1.8Mhz and 30Mhz, not VHF frequencies (see the AT-230
> manual for details).
>
> Why not build a simple HF dipole antenna, you will have much better
> luck with the correct antenna than using a VHF scanner antenna. Use
> the formula
>
> 468 / <freq in Mhz>
>
> to determine the initial starting point length of the antenna before
> trimming each end the same amount for lowest SWR.
>
> For example, a 40 meter dipole will have an end to end length of
> approximately 66 feet at 7.1Mhz (468 / 7.1 = 65.915)
>
> This antenna can be fed with 50 or 75 ohm coax.
>
> 73
> Mike W5RKL
>
>

> On 9/15/2014 1:12 PM, 'john' john@...
> [TS-520_820_530_830] wrote:
>> Â
>>
>> My TS-530s was working ok when just RXing (still no antenna) The
>> setup is scanner aerial into the AT-230 ATU and then into the TS.
>>
>> While tuning around the bands I was getting stations OK.
>>
>> Â
>>
>> Unplugged the set and took it to the local radio club so they could
>> show me how to setup the radio.
>>
>>
>> Setup the radio at the club and they started setting up the radio for
>> TXing ATU set to Dummy and proceeded to start setting the load etc,
>> but this didnâ□□t show much in the way of output on the ATU.
>>
>> A bit more fiddling and then the dummy load was connected (it was
>> thought that the ATU came with a Dummy load built-in). Eventually
>> after some playing around it was decided that three valves might be
>> at fault. Luckily someone in the club has a set I can have and also
>> has a valve tester.
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>> Â
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>> While trying to get the radio setup we noticed that if the ATU or
>> Dummy load was connected to the main antenna input on the radio (not
>> via ATU) the needle would bounce around as if there was a bad connection.
>>
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>> So, I took the radio home and set it up on my desk as it was before.
>> I also noticed that when tuning around the bands, the needle will
>> bounce around as if there is a bad connection. So I tried without
>> using the ATU and connecting the scanner antenna to the back of the
>> radio and the same was observed. With nothing connected via the
>> antenna socket the radio behaves and the needle stays stationary when
>> tuning around.
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>>
>> I am going to remove the three valves and take them to the club for
>> the next meet and pick up the new valves.
>>
>> Â
>>
>> Any thoughts people?

>>
>> Â
>>
>> Thanks
>>
>> Â
>>
>> John, M6JPE
>>
>> UK.
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> ----------
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49659. RE: [TS-520_820_530_830] TS-530s issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-15 19:14:16 UTC
From: john
Topic: 49656 Message: 49659

Hi Mike
Thanks the reply. The tubes I am getting a FOC which is nice.
I did check the SG switch and its on the ON position
We did suss that the ATU Dummy setting is just for attaching the Dummy load to.

At the mo the scanner aerial (does cover the HF band) is just for RX only as I need to get a microphone for it, and the other antenna I have been using is a length of wire in the loft, which both have worked OK recently.

Cheers

John

Moderator's note:
Message text shortened, unnecessary text removed
W5RKL Group Moderator

49660. Re: [TS-520_820_530_830] TS-530s issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-15 20:32:53 UTC
From: John Davidson
Topic: 49656 Message: 49660

First, you need a better antenna for the HF band .Try cleaning the controls, switches and see if that cures the problms.

My radio is Ham Radio...CW is Real Radio
73, John...K8JD

On Monday, September 15, 2014 3:02 PM, "Mike W5RKL w5rkl@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

I forgot to mention. The SG switch only affects the final amplifier during transmit. The receive signal does NOT travel/flow through the transmitter's driver and final amplifier stages. Wasting money buy/obtaining NOS driver and final tubes because the receive is poor will not improve the receive signals.

73
Mike W5RKL

On 9/15/2014 1:59 PM, Mike W5RKL w5rkl@... [TS-520_820_530_830] wrote:

>John,
>
>The Kenwood AT-230 tuner does not have a built in 50 ohm
dummy load.
>
>Before you waste money on new driver and final tubes,
did you check the rear panel 530's "SG" switch to ensure
it's in the "ON" position? Handling the 530 can easily
result in that switch be moved to the OFF position which
will result in no transmit RF output during tuning or
operating of the 530.
>
>Using a scanner antenna is not a good idea. The scanner
antenna is designed for VHF work and the 530 is designed
to operate on HF frequencies. The AT-230 is designed to
provide a match to amateur band antennas between 1.8Mhz
and 30Mhz, not VHF frequencies (see the AT-230 manual
for details).
>
>Why not build a simple HF dipole antenna, you will have
much better luck with the correct antenna than using a
VHF scanner antenna. Use the formula
>
>468 / <freq in Mhz>
>
>to determine the initial starting point length of the
antenna before trimming each end the same amount for

lowest SWR.
>
>For example, a 40 meter dipole will have an end to end
length of approximately 66 feet at 7.1Mhz (468 / 7.1 =
65.915)
>
>This antenna can be fed with 50 or 75 ohm coax.
>
>73
>Mike W5RKL
>
>
>
>On 9/15/2014 1:12 PM, 'john' john@... [TS-520_820_530_830] wrote:
>
>Â
>>My TS-530s was working ok when just RXing (still no antenna) The setup is scanner aerial into the AT-230 ATU and then into the TS.
>>While tuning around the bands I was getting stations OK.
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>>Unplugged the set and took it to the local radio club so they could show me how to setup the radio.
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>>Setup the radio at the club and they started
setting up the radio for TXing ATU set to Dummy
and proceeded to start setting the load etc, but
this didnât show much in the way of output on
the ATU.
>>A bit more fiddling and then the dummy load was connected (it was thought that the ATU came with a Dummy load built-in). Eventually after some playing around it was decided that three valves might be at fault. Luckily someone in the club has a set I can have and also has a valve tester.
>>Â
>>While trying to get the radio setup we noticed that if the ATU or Dummy load was connected to the main antenna input on the radio (not via ATU) the needle would bounce around as if there was a bad connection.
>>Â
>>So, I took the radio home and set it up on my desk as it was before. I also noticed that when tuning around the bands, the needle will bounce around as if there is a bad connection. So I tried without using the ATU and connecting the scanner antenna to the back of the radio and the same was observed. With nothing connected via the antenna socket the radio behaves and the needle stays stationary when tuning around.
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>>I am going to remove the three valves and take them to the club for the next meet and pick up the new valves.
>>Â
>>Any thoughts people?
>>Â
>>Thanks
>>Â

>>John, M6JPE
>>UK.
>>
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>>_____
>
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>

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49661. Re: [TS-520_820_530_830] How to set VFO-820 VFO endpoints

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-15 20:42:41 UTC
From: John Davidson
Topic: 49653 Message: 49661

I don't kow if the VFO has fine trimmers and padders for band limit alignment.
When I was running my basic TS520, (strictly analog dial) I just had to remember to recalibrate the mechanical dial with the xtal calibration signal when I moved from the bottom of a band to the middle . I RARELY EVER WENT TO THE TOP OF A BAND. but it was easy to use the calibrator signal to get right on the marks.

My radio is Ham Radio...CW is Real Radio
73, John...K8JD

On Monday, September 15, 2014 2:07 PM, "Mike W5RKL w5rkl@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Chris,

You said,

"I'm looking at a digital readout which, according to the schematic, is showing the VFO-820 frequency.Correct?"

No, not true.

The digital display is showing the actual operating frequency. The VFOs, whether internal or external, operate over a frequency range from 5.500Mhz to 5.000Mhz. This is clearly shown on the TS-820S block diagram on pages 5 and 24 in the 820 service manual.

73
Mike W5RKL

On 9/15/2014 12:16 PM, 'Chris Kepus' ckepus@... [TS-520_820_530_830] wrote:

>Hey Kenwoodies,
>
>I'm working on a VFO-820 that is cookin' along quite well with a very minor
>exception. It's off by a few Khz at the endpoints (as seen on a frequency
>counter - can't really see it on the dial markings). I've been through the
>820 (S) service manual and the VFO-820 manual and list archives and the
>usual internet searches but no joy re: adjusting endpoints. Then it occurs
>to me. if I'm using either a 820 or 820S, I'm looking at a digital readout
>which, according to the schematic, is showing the VFO-820 frequency.

>Correct? Hence, it doesn't matter a whit if there is a
slight difference
>when I am playing with the VFO-820 standalone and get the
results mentioned
>above. I was about to relax and forget about this but
being a Virgo is a
>real handicap sometimes.sigh.
>
>So, here I am taking up bandwidth seeking affirmation. Am
I right in my
>conclusion (it doesn't matter)..or not?
>
>PS: Is there a way to adjust the endpoints.even if it
doesn't matter?
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>PPS: This VFO-820 is surplus to my needs. If you are
wishing you had a
>really nice one, send me a private message and we'll talk.
>
>Thanks.
>
>Chris
>
>W7JPG
>
>"Any day above ground is a good day"
>
>[Non-text portions of this message have been removed]
>
>

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49662. Re: [TS-520_820_530_830] TS-530s issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-15 20:48:05 UTC
From: John
Topic: 49656 Message: 49662

```
I do have proper antenna, its just not up yet :-(
The radio was fine before transporting to the club and we tried tuning up.
It also does it when uplugging/plugging in an antenna to the PL plug at
the rear.
john. m6jpe
```

On Mon, September 15, 2014 9:32 pm, John Davidson k8jd@...
[TS-520_820_530_830] wrote:
> First, you need a better antenna for the HF band .Try cleaning the
> controls, switches and see if that cures the problms.
>
> My radio is Ham Radio...CW is Real Radio
> 73, John...K8JD
>
>
>
> On Monday, September 15, 2014 3:02 PM, "Mike W5RKL w5rkl@...
> [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:
>
>
>
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>
> I forgot to mention. The SG switch only affects the final amplifier
> during transmit. The receive signal does NOT travel/flow through the
> transmitter's driver and final amplifier stages. Wasting money
> buy/obtaining NOS driver and final tubes because the receive is poor will
> not improve the receive signals.
>
> 73
> Mike W5RKL
>
>
>
> On 9/15/2014 1:59 PM, Mike W5RKL w5rkl@... [TS-520_820_530_830]
> wrote:
>
>
>
>> John,
>>
>>
>> The Kenwood AT-230 tuner does not have a built in 50 ohm
>>

> dummy load.
>>
>> Before you waste money on new driver and final tubes,
>>
> did you check the rear panel 530's "SG" switch to ensure it's in the "ON"
> position? Handling the 530 can easily result in that switch be moved to
> the OFF position which will result in no transmit RF output during tuning
> or operating of the 530.
>>
>> Using a scanner antenna is not a good idea. The scanner
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> antenna is designed for VHF work and the 530 is designed to operate on HF
> frequencies. The AT-230 is designed to provide a match to amateur band
> antennas between 1.8Mhz and 30Mhz, not VHF frequencies (see the AT-230
> manual for details).
>>
>> Why not build a simple HF dipole antenna, you will have
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> much better luck with the correct antenna than using a VHF scanner
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>> 468 / <freq in Mhz>
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>> to determine the initial starting point length of the
> antenna before trimming each end the same amount for lowest SWR.
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>> For example, a 40 meter dipole will have an end to end
>>
> length of approximately 66 feet at 7.1Mhz (468 / 7.1 = 65.915)
>
>>
>> This antenna can be fed with 50 or 75 ohm coax.
>>
>>
>> 73
>> Mike W5RKL
>>
>>
>>
>>
>> On 9/15/2014 1:12 PM, 'john' john@...
>> [TS-520_820_530_830] wrote:
>>
>>
>> Ã□
>>
>>> My TS-530s was working ok when just RXing (still no antenna) The
>>> setup is scanner aerial into the AT-230 ATU and then into the TS.

>>> While tuning around the bands I was getting stations OK.
>>> Ã☐
>>> Unplugged the set and took it to the local radio club so they could
>>> show me how to setup the radio.
>>>
>>> Setup the radio at the club and they started
>>>
> setting up the radio for TXing ATU set to Dummy and proceeded to start
> setting the load etc, but this didnÃ¢t show much in the way of output on
> the ATU.
>>> A bit more fiddling and then the dummy load was connected (it was
>>> thought that the ATU came with a Dummy load built-in). Eventually
>>> after some playing around it was decided that three valves might be
>>> at fault. Luckily someone in the club has a set I can have and also
>>> has a valve tester. Ã☐
>>> While trying to get the radio setup we noticed that if the ATU or
>>> Dummy load was connected to the main antenna input on the radio (not
>>> via ATU) the needle would bounce around as if there was a bad
>>> connection. Ã☐
>>> So, I took the radio home and set it up on my desk as it was before. I
>>> also noticed that when tuning around the bands, the needle will
>>> bounce around as if there is a bad connection. So I tried without
>>> using the ATU and connecting the scanner antenna to the back of the
>>> radio and the same was observed. With nothing connected via the
>>> antenna socket the radio behaves and the needle stays stationary when
>>> tuning around. Ã☐
>>> I am going to remove the three valves and take them to the club for
>>> the next meet and pick up the new valves. Ã☐
>>> Any thoughts people?
>>> Ã☐
>>> Thanks
>>> Ã☐
>>> John, M6JPE
>>> UK.
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49663. Re: [TS-520_820_530_830] How to set VFO-820 VFO endpoints

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-16 00:40:23 UTC
From: ckepus@...
Topic: 49653 Message: 49663

Thanks for the quick replies from Joe, Mike, and John.

Joe, your reference to the SM p 48 covers EP adj for the TS-820 VFO, and does not reference this procedure to be applicable to the external VFO-820 which is covered in the same SM on pgs.71 and 72.

The specifics on the adjustment on p.48 seem confusing (in error??) as follows: the manual directs the reader to adjust TC1 and L1 and refers the reader to Figs. 30 and 31. While there is a TC1 shown in Fig 30 (FIX - VOX unit), there is no L1 shown in Fig 31. In Fig 29 (Marker), there is both a TC! and a L1: Please note that the FIX - VOX board X50-1350-00 p.59 has its own TC1 and L1 but they are associated with Channel 1 , not the VFO.

For those who have been there, done that, on which board(s) are the correct VFO TC1 and L1 located?

As many of you may know, the schematic and board number for the VFO-820 VFO board is identical the schematic and board number for the VFO board in the 820 "mother ship". Since there is no board component layout provided on p 71 or 72 for the VFO-820, I'll make the assumption that it is identical to the VFO board component layout in the "mother ship". Which then brings us back to the question: Where are TC1 and L1 for the VFO-820? Only two possibilities: They're on a different board in the VFO-820 enclosure.which are not shown anywhere..OR.. the VFO-820 circuitry utilizes, by virtue of some trick switching scheme, the same TC1 and L1 that the "mother ship" VFO uses...wherever TC1 and L1 may be.

Does anyone know if this is the way things work and where TC1 and L1 really reside?

Mike: You said: "The digital display is showing the actual operating frequency. The VFOs, whether internal or external, operate over a frequency range from 5.500Mhz to 5.000Mhz. This is clearly shown on the TS-820S block diagram on pages 5 and 24 in the 820 service manual."

You're correct. And I actually know all that. I just threw everyone off by failing to write what was in my brain.

My brain said: When the switch on the "mother ship" is thrown to engage the external VFO, the processing of the VFO-820 signal coming into the "mother ship" results in the VFO-820 range of 5.5 to 5.0 Mhz being processed and translated to show on the "mother ship" digital readout as the actual operating frequency so no mental gymnastics are required on the part of the operator. My somewhat unusual and rhetorical question is: That being the case, why would anyone but a Virgo worry about the analog dial on the VFO-820 being off by 2 KHz (or less)?? What, me worry?

To repeat: Does anyone know where "mother ship" TC1 and L1 really reside and are they utilized by the VFO-820 when the external VFO is engaged?

49664. Thank you

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-16 01:27:49 UTC
From: jcidlik@...
Topic: 29343 Message: 49664

Thanks guys for all the info. My Dad had a TS-830s so it is nostalgic and fun to play with the one I purchased. I also run an IC-746 & a Flex 5K to an 80m double bazooka. Thanks again 73
Cid, K2CID

49665. Re: [TS-520_820_530_830] How to set VFO-820 VFO endpoints

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-16 03:55:34 UTC
From: Joseph Stiles
Topic: 49653 Message: 49665

Chris,I agree that the referenced figure is rather poor. I should have been MORE specific.

The remote VFO-820's VFO and the rigs VFO are exactly the same. L-1 and TC-1 are under the silver tape on the top side of the VFO metal shield. L-1 is accessed through the rear hole and TC-1 is at the front. NOTE: L-1 has VERY strong white thread lock. IF you do not remove the thread lock before you try and adjust the shaft..you will break off the screwdriver slot ears. The shaft is made of brass and doesn't take kindly to force!

You should be able to make your adjustment(s) on the remote VFO (if so desired), just by selecting it from the function switch

As you have noticed...the service manual has errors of all kinds.

73 Joe
WB7UQU

On Monday, September 15, 2014 5:40 PM, "ckepus@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Thanks for the quick replies from Joe, Mike, and John.
>
>
>Joe, your reference to the SM p 48 covers EP adj for the TS-820 VFO, and does not reference this procedure to be applicable to the external VFO-820 which is covered in the same SM on pgs.71 and 72.
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>
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>
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>
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>
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>You're correct. And I actually know all that. I just threw everyone off by failing to write what was in my brain.
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>To repeat: Does anyone know where "mother ship" TC1 and L1 really reside and are they utilized by the VFO-820 when the external VFO is engaged?
>
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>

49666. Re: [TS-520_820_530_830] How to set VFO-820 VFO endpoints

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-16 14:44:00 UTC
From: Mike W5RKL
Topic: 49653 Message: 49666

Chris,

You said

"/*My brain said: When the switch on the "mother ship" is thrown to engage the external VFO, the processing of the VFO-820 signal coming into the "mother ship" results in the VFO-820 range of 5.5 to 5.0 Mhz being processed and translated to show on the "mother ship" digital readout as the actual operating frequency so no mental gymnastics are required on the part of the operator. *//*
*/
There is no switch on the TS-820 or TS-820S ("mother ship") that "engages the external VFO". The remote VFO-820's FUNCTION switch determines which VFO, internal or external, is used to control transmit and receive frequencies. Split operation, where one VFO controls transmit and the other VFO controls receive, on the same band, is determined by the setting of the remote VFO-520 or VFO-820's FUNCTION switch.

Setting the remote VFO-820's FUNCTION switch to OFF causes the TS-820/TS-820S internal VFO the sole frequency controlling source.

Normal VFO operation with or without a remote VFO-520 or VFO-820, requires the TS-820/TS-820S FUNCTION switch to be set to "VFO".

FIX settings of the TS-820/TS-820S FUNCTION switch is similar but not the same as using remote VFO-520 or VFO-820 and internal VFOs to control frequency of the transceiver.

TS-820/TS-820S FUNCTION switch settings

VFO = Internal or remote VFO-520 or VFO-820 controls the transceiver's transmit and receive frquency
VFO R = Internal or remote VFO-520 or VFO-820 controls the transceiver's "receive" frequency but a crystal controls the TS-820/TS-820S "transmit" frequency
FIX R = Internal or remote VFO-520 or VFO-820 controls the transceiver's "transmit" frequency but a crystal controls the TS-820/TS-820S "receive" frequency
FIX = a crystal controls the TS-820/TS-820S transmit AND receive frequency, internal and remote VFO-520 or VFO-820's are "disabled"

All of these features are discussed in the operator's manual.

You will notice I included the "VFO-520" as a possible remote VFO that can be used with the TS-820/TS-820S. The VFO-520 is the same VFO and is wired the same through the VFO connecting cable as the VFO-820.

Therefore, the VFO-520 or VFO-820 will work, plug and play, with the TS-820/TS-820S and vice verse, the VFO-820 or VFO-520 will work, plug and play, with any of the 3 TS-520 series transceivers.

73
Mike W5RKL

On 9/15/2014 7:40 PM, ckepus@... [TS-520_820_530_830] wrote:
>
> Thanks for the quick replies from Joe, Mike, and John.
>
>
> Joe, your reference to the SM p 48 covers EP adj for the TS-820 VFO,
> and does not reference this procedure to be applicable to the external
> VFO-820 which is covered in the same SM on pgs.71 and 72.
>
> The specifics on the adjustment on p.48 seem confusing (in error??) as
> follows: the manual directs the reader to adjust TC1 and L1 and
> refers the reader to Figs. 30 and 31. While there is a TC1 shown in
> Fig 30 (FIX - VOX unit), there is no L1 shown in Fig 31. In Fig 29
> (Marker), there is both a TC! and a L1: Please note that the FIX -
> VOX board X50-1350-00 p.59 has its own TC1 and L1 but they are
> associated with Channel 1 , not the VFO.
>
> For those who have been there, done that, on which board(s) are the
> correct VFO TC1 and L1 located?
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> As many of you may know, the schematic and board number for the
> VFO-820 VFO board is identical the schematic and board number for the
> VFO board in the 820 "mother ship". Since there is no board component
> layout provided on p 71 or 72 for the VFO-820, I'll make the
> assumption that it is identical to the VFO board component layout in
> the "mother ship". Which then brings us back to the question: Where
> are TC1 and L1 for the VFO-820? Only two possibilities: They're on a
> different board in the VFO-820 enclosure.which are not shown
> anywhere..OR.. the VFO-820 circuitry utilizes, by virtue of some trick
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> being processed and translated to show on the "mother ship" digital
> readout as the actual operating frequency so no mental gymnastics are
> required on the part of the operator. My somewhat unusual and
> rhetorical question is: That being the case, why would anyone but a
> Virgo worry about the analog dial on the VFO-820 being off by 2 KHz
> (or less)?? What, me worry?
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> To repeat: Does anyone know where "mother ship" TC1 and L1 really
> reside and are they utilized by the VFO-820 when the external VFO is
> engaged?
>
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

49667. TS820S Frequency Shift and Drive

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-16 05:00:40 UTC
From: light316@...
Topic: 49667 Message: 49667

Hello All,

I have the TS820S and I am noticing frequency jump/shift of 1.5Khz. It was on the 40m band today but I also noticed on 20m as well. I also see a bit of drift. I saw/heard it at the low end of the band listening to CW tones changing over time.

I have read that cleaning the contacts of the VFO would help so I plan to purchase some Deoxit soon. Any other thoughts?

73s, Mark, K9MVC

49668. Re: TS820S Frequency Shift and Drive

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-16 19:33:52 UTC
From: w5rkl@...
Topic: 49667 Message: 49668

Mark,

The TS-820 and TS-820S, both are the same transceiver minus the digital display in the TS-820, will drift. The STABILITY specifications for both transceivers is listed in the TS-820/TS-820S operator's manual's Specification's page. Typical drift is 100Hz during the first 30 minutes warm up and 1Khz during the first hour warm up.

I don't know if you are aware but the TS-820 internal and VFO-820 external VFOs are both analog VFO which means they have a variable capacitor and coil. Neither of the TS-820 internal or VFO-820 external VFOs are digital VFO.

73
Mike W5RKL

49669. Re: [TS-520_820_530_830] TS820S Frequency Shift and Drive

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-16 19:41:29 UTC
From: Joseph Stiles
Topic: 49667 Message: 49669

Mark,

Is this something new on a rig you have had for sometime? Some "drift" is how much? IF the VFO drifts +/- 1khz during approx 1 hour period after 1 minute warm-up....that is within Kenwood specs for this rig...100Hz during any 30 minute period after warm-up..is within specs.

"jumping/shifting" of the indicated frequency when rotating the main VFO dial...usually indicates some "crud" on the VFO's wiper arm. The jumps will be observed on ALL bands...in just about the same area. It is not difficult to clean the offending part...just need to take your time, and there are several ways to clean the wiper arm.

DeOxit is fine...get some "canned air" while your at it. You can find it at computer stores, Walmart, and other places. You use it to blow off/out the crud dissolved by the DeOxit..and to dry it out.

73 Joe
WB7UQU

On Tuesday, September 16, 2014 7:47 AM, "light316@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Hello All,
>
>
>I have the TS820S and I am noticing frequency jump/shift of 1.5Khz. It was on the 40m band today but I also noticed on 20m as well. I also see a bit of drift. I saw/heard it at the low end of the band listening to CW tones changing over time.
>
>
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>
>73s, Mark, K9MVC
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>
>

49670. Re: TS820S Frequency Shift and Drive

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-17 02:51:38 UTC
From: light316@...
Topic: 49667 Message: 49670

Hi Mike,

Thanks for the info. Yes, it makes sense that it is an analog VFO. The drift I noticed was after it was on for an hour or more and it was quite large. It was shifting down (or up, I can't remember exactly) at about 100hz per minute. It is the instantaneous jump in frequency of ~1.5Khz that would shift up, then back down after 10 seconds or more.

Thanks,
Mark

49671. Re: [TS-520_820_530_830] TS820S Frequency Shift and Drive

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-17 02:59:55 UTC
From: light316@...
Topic: 49667 Message: 49671

Hey Joe,

Thanks for the notes. The jumps are across bands as you noted. I am not sure it is the same portion of the band, but expect it might be. It is always where you do not want it to be. :) The drift was not noticeable that much until I was down in the CW area. It was shifting the code sound.

This is my first rig and I have had it about a month. It didn't seem to shift back when I first got it, then again maybe I did not notice it since I am learning. My guess it was, but I thought it was the flaky display.

I need to get some Deoxit and canned air. Plenty of hot air, but that will not help. :)

Thanks! 73
Mark, K9MVC

49672. Re: [TS-520_820_530_830] TS820S Frequency Shift and Drive

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-17 03:56:32 UTC
From: Joseph Stiles
Topic: 49667 Message: 49672

Mark,

Glad to help. The problem you arfe having with the frequency jumping around is very common. It can also effect the other Kenwood hybrid series that use similar VFOs. The VFO in the remote VFO is rather easy to do...the one in the rig is a bit more involved.
Gordon-n6wk(sk)
has some pictures of what you have to do to. Go to: N^WK "dot" com scroll down until you find "TS-820 VFO Service Proceedure." It's really not that hard. Or you can use a fine pir of needle-nose pliers, or an angle phillips screw driver and remove the rear most screw from the cover on the side of the VFO...and just loosen the front one. Swivel cover out of the way...and with BRIGHT LIGHT look towards the rear of the VFO...you'll see the VFO shaft and a piece of spring metal...that's what you have to clean with the DeOxit and canned air. Give it a small spray and rotate through lock to lock several times..spray again...rotate again...blow out with canned air. Before you put it all back together...check for proper operation..if it all now works...button it up. You may even solve your drift problem too.

NOTE: do the above with rig unplugged from power!

73 Joe
WB7UQU

On Tuesday, September 16, 2014 8:41 PM, "light316@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Hey Joe,
>
>
>Thanks for the notes. The jumps are across bands as you noted. I am not sure it is the same portion of the band, but expect it might be. It is always where you do not want it to be. :) The drift was not noticeable that much until I was down in the CW area. It was shifting the code sound.
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>
>
>I need to get some Deoxit and canned air. Plenty of hot air, but that will not help. :)
>
>
>Thanks! 73
>Mark, K9MVC

>
>
>
>
>

49673. Re: [TS-520_820_530_830] TS820S Frequency Shift and Drive

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-17 04:23:36 UTC
From: Wes Will
Topic: 49667 Message: 49673

> you'll see the VFO shaft and a piece of spring metal...that's what you have to clean with the DeOxit and canned air.

From previous conversations on this list about this very item of hardware by at least two of the better (professional) hybrid repair people, it is probably a good idea for someone (even if he is NOT one of the top repair people here - and of course by that I mean ME) to once again mention that you should

ONLY CLEAN THE CONTACT WIPER SPRING AND THE SHAFT,
AND NOT TRY TO BEND OR MANIPULATE THE WIPER SPRING
TO BE TIGHTER AGAINST THE CAPACITOR SHAFT

That bit of metal is rather fragile for one thing, and it is springy by its very nature. If you try to tweak it, you risk breaking it for one thing, and you will almost certainly LOOSEN it and make it less effectively contact the shaft.

Don't bend it, squeeze it, pry on it, or do anything to it except clean it and the shaft it touches. Be careful when you're in there so as not to make a minor problem worse.

--
Wes Will
N9KDY

49674. Re: [TS-520_820_530_830] TS820S Frequency Shift and Drive

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-17 05:13:47 UTC
From: light316@...
Topic: 49667 Message: 49674

Hi Wes,

Thanks for the recommendations. Good thing I cannot fit my fingers in there! I do not want to go backwards... I tried to search prior posts for this topic, but I was unsuccessful. Do you know how to search for topics in prior posts?

73,
Mark
K9MVC

49675. Re: [TS-520_820_530_830] TS820S Frequency Shift and Drive

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-17 13:30:50 UTC
From: Wes Will
Topic: 49667 Message: 49675

On 09/17/2014 12:13 AM, light316@... [TS-520_820_530_830] wrote

> I tried to search prior posts for this topic, but I was unsuccessful.
> Do you know how to search for topics in prior posts?

Well, if this was a real list server managing a real list instead of a piece of crap that the yahooligans recently modified (again) to be even worse than it was before, I can't be sure that ANYONE can search for things and expect to get the same answer back twice, or the correct answer even once.

I'll give it a go and see what I can turn up, and I'll tell you how I did it if I get anywhere, fair enough? It will take a while, maybe ten or fifteen minutes after this message is sent, for the followup with what I can find, if anything, and those instructions for how. Is that acceptable? Best I can do today, I'm pretty much an invalid at the moment, the arthritis that is my normal nemesis has hit my lower spine and I'm flat on my back for the a while, maybe for the foreseeable future.

(If it is permanent, I'm not going to screw up the rest of my wife's life with changing my diapers. I'll be moving to the V.A. nursing home ASAP if it is. Yes, life at this point in time, SUCKS.)

I do hate Yahoo and all their ilk.

I have been running mail and web and file servers for as long as they have been in existence. Now I do it only as a hobby, being retired and all that, but I still remember how. Almost every facet of the "new" yahoo interface and software is a roach motel. Poor design, no attention paid to proper user interfacing, no integrity in the database, they did NOTHING correctly.

I -wish- I could convince the owners of this list to move it about ANYWHERE else, onto a MailMan or MajorDomo or other similar mailing list manager, and just have a proper web page. I could host the thing myself out of my basement, and wouldn't even charge them for the service, it just sits there most of the time, anyway. They would have to get someone to write the database connection web page to store files, photos, and downloadable stuff. The MailMan list manager I run already does archives and searching of them really well.

--
Wes Will
SysAdmin
N9KDY

49676. Re: [TS-520_820_530_830] TS820S Frequency Shift and Drive

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-17 13:57:08 UTC
From: Joseph Stiles
Topic: 49667 Message: 49676

Mark and others,

To find out IF your problem has been discussed before...which it most likely has..go this groups "Home Page." One the left side of the page, right under the picture of the great KW station, click on "conversations." In the long box right above, enter you criteria...ie "cleaning VFO," or "VFO drift." You will get numerous "conversations (posts)" that have your key words. I entered: "cleaning VFO" and got back approx. 30 posts...including some with frequency drift mentioned. The more generic you are, the more "conversations" you'll get back...I mean possibly in the hundreds. It helps to be specific. Also, Click on the "files" area...lot's of info there too.

I have no control over Yahoo...I just have to work with it/them as you do...and it gets rather tedious.

73 Joe
WB7UQU
TS-520_820_530_830 group Co-owner

On Wednesday, September 17, 2014 6:32 AM, "Wes Will wwill@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>On 09/17/2014 12:13 AM, light316@... [TS-520_820_530_830] wrote
>
>> I tried to search prior posts for this topic, but I was unsuccessful.
>> Do you know how to search for topics in prior posts?
>
>Well, if this was a real list server managing a real list instead of a
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>I'll give it a go and see what I can turn up, and I'll tell you how I
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>acceptable? Best I can do today, I'm pretty much an invalid at the
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>(If it is permanent, I'm not going to screw up the rest of my wife's
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>attention paid to proper user interfacing, no integrity in the database,
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>I -wish- I could convince the owners of this list to move it about
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>manager, and just have a proper web page. I could host the thing myself
>out of my basement, and wouldn't even charge them for the service, it
>just sits there most of the time, anyway. They would have to get
>someone to write the database connection web page to store files,
>photos, and downloadable stuff. The MailMan list manager I run already
>does archives and searching of them really well.
>
>--
>Wes Will
>SysAdmin
>N9KDY
>
>
>
>

49677. Need LMO

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-17 14:19:20 UTC
From: Mike W5RKL
Topic: 49677 Message: 49677

I know this is not Kenwood related and I apologize for that but since I am having no luck elsewhere, I thought maybe some one on the group may have an HW-101 that doesn't work or an HW-101 parts chassis with the LMO intact or just the LMO laying around collecting dust they would part with. I don't need an HW-100 parts chassis nor the HW-100 LMO, I already have one. I also don't need the TRW Tube LMO from the SB-100/101 or SB-300/301 either, I already have 2 of those. I need an HW-101 LMO with dial and dial hardware including the 2 Jackson Drives. If you happen to have these item(s) and you would part it at a "reasonable" price, not a month's rent, let me know off group.

73
Mike W5RKL
www.w5rkl.com

--

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

49678. Re: [TS-520_820_530_830] TS820S Frequency Shift and Drive

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-17 14:57:25 UTC
From: light316@...
Topic: 49667 Message: 49678

Thanks to Joe (and Wes offline) for directions. I could have sworn that I tried this when I searched, but it took me all over the place except the right place. Now I have lots of more things to look into!

Thanks,
Mark, K9MVC

49679. tunning knob

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-17 16:46:36 UTC
From: jcidlik@...
Topic: 49679 Message: 49679

I am finding nothing in the manual addressing a tuning dial brake. Is there a way to tighten it up 'just a little'
Cid, K2CID

49680. Re: *** SPAM ***Re: [TS-520_820_530_830] TS820S Frequency Shift and Drive

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-17 18:01:13 UTC
From: Mike W5RKL
Topic: 49667 Message: 49680

There is a "Help" link on any Yahoo group main page. It's the "?" to the right of "Management. Simply click on it and when the Help page comes up, enter the topic

"search"

in the search text box and click the "Help Search" button at the top of the page.

You can only search one Yahoo Group at a time and you must be logged into Yahoo Groups to perform any search.

If you are using an e-mail client such as "Thunderbird", you can search your email for topics of this nature. The search text box is located at the upper right of the page, just enter the search topic and click the magnifying glass or press enter.

73
Mike W5RKL

On 9/17/2014 9:57 AM, light316@... [TS-520_820_530_830] wrote:
>
> Thanks to Joe (and Wes offline) for directions. I could have sworn
> that I tried this when I searched, but it took me all over the place
> except the right place. Now I have lots of more things to look into!
>
>
> Thanks,
>
> Mark, K9MVC
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

49681. Re: *** SPAM ***[TS-520_820_530_830] tunning knob

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-17 18:01:34 UTC
From: Mike W5RKL
Topic: 49679 Message: 49681

No Cid, there isn't.

73
Mike W5RKL

On 9/17/2014 11:46 AM, jcidlik@... [TS-520_820_530_830] wrote:
>
> I am finding nothing in the manual addressing a tuning dial brake. Is
> there a way to tighten it up 'just a little'
> Cid, K2CID
>
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

49682. Re: TS820S Frequency Shift and Drive

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-18 14:18:40 UTC
From: light316@...
Topic: 49667 Message: 49682

Hello All,

I ordered some DeOxit to clean VFO but still waiting for it to get here.

New info on the frequency jumping around...
I found that the frequency is still bouncing around, but I found that if I use RIT, it is stable on the receive end. I also noticed that when I enable RIT, it should be near the frequency I start at, but now recently I have to shift way negative to get the same frequency. I read in the service manual how to adjust this, but just last week it seemed pretty close to zeroed.

Your thoughts?

Thanks,
Mark, K9MVC

49684. Clearance on my Hybrid Parts...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-18 15:25:16 UTC
From: ke5ftf@...
Topic: 49684 Message: 49684

I have not had a buyer for all my Kenwood Hybrid parts...

I do need to sell it all so will offer lower pricing here on the Kenwood Hybrid Group...

All the Kenwood Hybrid (520 to 830S) parts are clean & working condition...

Smaller parts such as Knobs & Control Pots (weights of 1 to 16 ounces) will be

mailed by Priority Mail box with Tracking & Insurance...($6.40)...

Heavier parts such as a Transformer (8 lbs. ea.) will be mailed by

Priority Medium Flat Rate ($12.65)...
****
My first offering is the two Power Transformers for the 520 to the 830S

(you pick as I have many)...

Two (2) Power Transformers ...

Packed & mailed by Priority Mail Medium Flat Rate w/Tracking ($12.65 cost)....
Total.....$82.65... (Normally $112.65)...

Note... I can mix the transformers like a 520 & an 830S....

Add $3.00 for a PayPal payment OR I can take a Personal Check or a PMO...

Thanks
Bob
KE5FTF
73s

49685. Re: *** SPAM ***[TS-520_820_530_830] Re: TS820S Frequency Shift and Drive

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-18 15:25:54 UTC
From: Mike W5RKL
Topic: 49667 Message: 49685

Mark,

Before you start adjusting circuits, wait until you have cleaned the VFO flexible connection and the RIT pot FIRST. You may find you won't have to make any adjustments.

If you have not yet purchased canned air, go to Walmart and purchase at least 2 cans in the TV/Cell phone department. When using canned air, do NOT turn the can upside down and do NOT shake the can!!

Read ALL warnings on the DeoXit D5 and canned air cans!!! If you purchased the flammable D5 cleaner, you MUST wait at least 2 minutes after completing the cleaning process before powering up the radio/equipment. This is clearly stated on the D5 can!!

Also, pay attention and use only enough cleaner to do the job. Do NOT soak the area or pot with cleaner. Use canned air after cleaning the VFO and RIT pot to remove any/all cleaner and dirt residue. Wait at least 2 minutes before powering up the equipment. The 2 minute wait is clearly stated on the D5's can.

73
Mike W5RKL

On 9/18/2014 9:18 AM, light316@... [TS-520_820_530_830] wrote:
>
> Hello All,
>
>
> I ordered some DeOxit to clean VFO but still waiting for it to get here.
>
>
> New info on the frequency jumping around...
>
> I found that the frequency is still bouncing around, but I found that
> if I use RIT, it is stable on the receive end. I also noticed that
> when I enable RIT, it should be near the frequency I start at, but now
> recently I have to shift way negative to get the same frequency. I
> read in the service manual how to adjust this, but just last week it
> seemed pretty close to zeroed.
>
>
> Your thoughts?
>
>

> Thanks,
>
> Mark, K9MVC
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

49686. Re: [TS-520_820_530_830] Selling all my Hybrid Parts

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-18 15:34:45 UTC
From: Daniel Curry
Topic: 49686 Message: 49686

Bob - I have a TS-520 and a DG-5. Do you have the DK-5 that goes inside the radio so the DG-5 will work as a digital display?

REMEMBER: post are required to be signed with your NAME & CALL(if any)

this post edited as it contained already posted material. 73 Joe wb7uqu

49687. Re: [TS-520_820_530_830] Selling all my Hybrid Parts

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-18 19:41:27 UTC
From: Bob Mansker
Topic: 49686 Message: 49687

Sorry, No DG-5 :(

Bob... Ke5ftf

****

KE5FTF
Kenwood Hybrid Parts
ke5ftf@...

Bob Mansker

Wichita Falls, TX 76302

Sent: Thursday, September 18, 2014 at 10:34 AM
From: "Daniel Curry dcurry@... [TS-520_820_530_830]"
To: TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830] Selling all my Hybrid Parts

Bob - I have a TS-520 and a DG-5. Do you have the DK-5 that goes inside the radio so the DG-5 will work as a digital display?

REMEMBER: post are required to be signed with your NAME CALL(if any)

this post edited as it contained already posted material. 73 Joe wb7uqu

49688. Re: [TS-520_820_530_830] Selling all my Hybrid Parts

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-18 20:58:13 UTC
From: Jim Lamanteer
Topic: 49686 Message: 49688

DAN IAM SURE I HAVE ONE A DK-520 I BELIVE IS WHAT U NEED? DO U HAVE A PHONE NUMBER I CAN CONTACT U ? I THNIK I HAVE THE INSTALLATION SHEETS AND AL., JIMMY WB2KNR

From: "Daniel Curry dcurry@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com>
To: TS-520_820_530_830@yahoogroups.com
Sent: Thursday, September 18, 2014 11:34 AM
Subject: Re: [TS-520_820_530_830] Selling all my Hybrid Parts

Bob - I have a TS-520 and a DG-5. Do you have the DK-5 that goes inside the radio so the DG-5 will work as a digital display?

REMEMBER: post are required to be signed with your NAME CALL(if any)

this post edited as it contained already posted material. 73 Joe wb7uqu

49689. Re: [TS-520_820_530_830] Selling all my Hybrid Parts

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-18 21:03:36 UTC
From: James Scribner
Topic: 49686 Message: 49689

Bob Mansker,
Would you have either/both of the internal boards for DG-1 or complete unit? (for 820-820S)
73
W5SWM-Jim

On Thu, Sep 18, 2014 at 10:17 AM, ke5ftf@... [TS-520_820_530_830] <TS-520_820_530_830@...m> wrote:

>
>
> I have not had a buyer for all my Kenwood Hybrid parts...
>
>
>
> I do need to sell it all so will offer lower pricing here on QTH & the
> Kenwood Hybrid Group (on Yahoo)...
>
> As last resort on Ebay...
>
> All the Kenwood Hybrid (520 to 830S) parts are clean & working condition...
>
>
>
> Smaller parts such as Knobs & Control Pots (weights of 1 to 16 ounces)
> will be mailed by
>
> Priority Mail box with Tracking & Insurance...($6.40 mailing cost)...
>
> Heavier parts such as a Transformer (8 lbs. ea.) will be mailed by
> Priority Medium Flat Rate ($12.65 cost)...
>
> **********
>
> My first offering is the two Power Transformers for the 520 to the 830S
> (you pick as I have many)...
>
>
>
> Two (2) Power Transformers packed & mailed by Priority Mail Medium Flat
> Rate w/Tracking ($12.65)....
>
> $82.65... (Normally $112.65)...
>
>

>
> Note... I can mix the transformers like a 520 & an 830S....
>
>
>
> Add $3.00 for a PayPal payment OR I can take a Personal Check or a Postal
> Money Order...
>
> Please contact me off board...
>
> Thanks
>
> Bob
>
> KE5FTF
>
> 73s
>
>
>

49690. Re: [TS-520_820_530_830] Selling all my Hybrid Parts

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-18 21:19:42 UTC
From: Greg Albers
Topic: 49686 Message: 49690

Bob
Do you have any cables or connectors for a MC-50 mic?
73
Greg
KC9VVU
Sent from my Virgin Mobile phone.

"James Scribner swpthg@gmail.com [TS-520_820_530_830]"
<TS-520_820_530_830@yahoogroups.com> wrote:

>Bob Mansker,
>Would you have either/both of the internal boards for DG-1 or complete
>unit? (for 820-820S)
>73
>W5SWM-Jim
>
>On Thu, Sep 18, 2014 at 10:17 AM, ke5ftf@mail.com [TS-520_820_530_830] <
>TS-520_820_530_830@yahoogroups.com> wrote:
>
>>
>>
>> I have not had a buyer for all my Kenwood Hybrid parts...
>>
>>
>>
>> I do need to sell it all so will offer lower pricing here on QTH & the
>> Kenwood Hybrid Group (on Yahoo)...
>>
>> As last resort on Ebay...
>>
>> All the Kenwood Hybrid (520 to 830S) parts are clean & working condition...
>>
>>
>>
>> Smaller parts such as Knobs & Control Pots (weights of 1 to 16 ounces)
>> will be mailed by
>>
>> Priority Mail box with Tracking & Insurance...($6.40 mailing cost)...
>>
>> Heavier parts such as a Transformer (8 lbs. ea.) will be mailed by
>> Priority Medium Flat Rate ($12.65 cost)...
>>
>> **********
>>
>> My first offering is the two Power Transformers for the 520 to the 830S

>> (you pick as I have many)...
>>
>>
>>
>> Two (2) Power Transformers packed & mailed by Priority Mail Medium Flat
>> Rate w/Tracking ($12.65)....
>>
>> $82.65... (Normally $112.65)...
>>
>>
>>
>> Note... I can mix the transformers like a 520 & an 830S....
>>
>>
>>
>> Add $3.00 for a PayPal payment OR I can take a Personal Check or a Postal
>> Money Order...
>>
>> Please contact me off board...
>>
>> Thanks
>>
>> Bob
>>
>> KE5FTF
>>
>> 73s
>>
>>
>>

49691. Re: [TS-520_820_530_830] Selling all my Hybrid Parts

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-18 21:37:06 UTC
From: ke5ftf@...
Topic: 49686 Message: 49691

No MC-50 parts, do have a complete MC-50 but not ready to sell yet...
Bob

49692. Re: [TS-520_820_530_830] Selling all my Hybrid Parts

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-18 21:41:17 UTC
From: Greg Albers
Topic: 49686 Message: 49692

Thanks for the reply.
Greg
KC9VVU
Sent from my Virgin Mobile phone.

"ke5ftf@mail.com [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>No MC-50 parts, do have a complete MC-50 but not ready to sell yet...
>Bob

49693. Re: *** SPAM ***[TS-520_820_530_830] Re: TS820S Frequency Shift and Drive

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-19 03:23:29 UTC
From: light316@...
Topic: 49667 Message: 49693

Hi Mike and Wes,

Thanks for the reminder. I plan to use canned air. I assume I can get that locally.
I also do not need a fire in my house, so I will let it go a while and vent out the fumes.
I will not tune further until I get this fixed up better.

Thanks,
Mark

49694. Re: [TS-520_820_530_830] Clearance on my Hybrid Parts...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-19 10:09:21 UTC
From: Kurt Pawlikowski
Topic: 49684 Message: 49694

FYI: A Google search turned up some problems on this call sign: Let the
buyer beware. kurtt WB9FMC.
On 9/18/2014 10:25, ke5ftf@... [TS-520_820_530_830] wrote:
>
>
>
> I have not had a buyer for all my Kenwood Hybrid parts...
>
> I do need to sell it all so will offer lower pricing here on the
> Kenwood Hybrid Group...
>
>
> All the Kenwood Hybrid (520 to 830S) parts are clean & working
> condition...
>
> Smaller parts such as Knobs & Control Pots (weights of 1 to 16 ounces)
> will be
>
> mailed byPriority Mail box with Tracking & Insurance...($6.40)...
>
>
> Heavier parts such as a Transformer (8 lbs. ea.) will be mailed by
>
> Priority Medium Flat Rate ($12.65)...
>
> **********
>
> My first offering is the two Power Transformers for the 520 to the 830S
>
> (you pick as I have many)...
>
> Two (2) Power Transformers ...
>
> Packed & mailed by Priority Mail Medium Flat Rate w/Tracking ($12.65
> cost)....
>
> Total.....$82.65... (Normally $112.65)...
>
> Note... I can mix the transformers like a 520 & an 830S....
>
> Add $3.00 for a PayPal payment OR I can take a Personal Check or a PMO...
>
> Thanks
>
> Bob

>
> KE5FTF
>
> 73s
>
>
>
>
>

49695. Re: [TS-520_820_530_830] Clearance on my Hybrid Parts...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-19 15:14:13 UTC
From: ke5ftf@...
Topic: 49684 Message: 49695

That is all BOGUS...
Why don't you do a Search on my call sign on the "Feedback" on QTH...
Remember when you point your finger at someone you have 3 fingers pointing at you...
Bob
KE5FTF
73s

49696. RE: [TS-520_820_530_830] Clearance on my Hybrid Parts...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-19 15:31:28 UTC
From: Joe Wolfe
Topic: 49684 Message: 49696

This item was posted to the internet…W-A-Y back in 2008:

http://www.ripoffreport.com/r/ke5ftf-robert-a-mansker/ocean-springs-mississippi-39564/ke5ftf-robert-a-mansker-ke5ftf-robert-a-mansker-is-a-scammer-and-a-crook-ocean-spring-393422

As was this, posted on eHam in 2013, a little (sic) more recent!

http://www.eham.net/ehamforum/smf/index.php?topic=91039.0

Joe – W7RKN

From: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com]
Subject: Re: [TS-520_820_530_830] Clearance on my Hybrid Parts...

That is all BOGUS...
Why don't you do a Search on my call sign on the "Feedback" on QTH...
Remember when you point your finger at someone you have 3 fingers pointing at you...
Bob
KE5FTF
73s

49697. To All Members

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-19 15:51:00 UTC
From: Mike W5RKL
Topic: 49697 Message: 49697

ALL MEMBERS,

Discussion on the group server about this issue will cease immediately!

The group Co-owner and Moderators will handle this issue, not through
member discussions on the group server!!

End of discussion!

Mike W5RKL
Yahoo Kenwood TS_520_820_530_830 Group Moderator

--

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

49698. RE: [TS-520_820_530_830] Clearance on my Hybrid Parts...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-19 15:57:00 UTC
From: ke5ftf@...
Topic: 49684 Message: 49698

Yup, quite aware of the Bogus web page....
The guy scams companies & individuals...
If you pay him a $2,000 blackmail fee then he will remove the Lies about you...
Only complete Kenwood I sold (working) was a TS-430S to a fellow in Mobile, I met him half way...
Other than a Icom Pro-3 sold to a fellow near Russia (shipped to Florida) I have ONLY sold Hybrid parts...

That web page is just something you have to live with, no support from the law at all...
Bob
KE5FTF
73s

49699. Re: To All Members

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-19 16:01:27 UTC
From: Mike W5RKL
Topic: 49697 Message: 49699

I left out what the issue is pertaining to which is an accusation about
Bob Mansker. This matter, as I stated earlier, is being handled by the
Group Co-owner and Moderator(s).

Mike W5RKL
Yahoo Kenwood TS_520_820_530_830 Group Moderator

On 9/19/2014 10:51 AM, Mike W5RKL wrote:
> ALL MEMBERS,
>
> Discussion on the group server about this issue will cease immediately!
>
> The group Co-owner and Moderators will handle this issue, not through
> member discussions on the group server!!
>
> End of discussion!
>
> Mike W5RKL
> Yahoo Kenwood TS_520_820_530_830 Group Moderator
> --
>

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http://www.avast.com

49700. RE: [TS-520_820_530_830] TS-530s issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-19 18:00:39 UTC
From: john
Topic: 49656 Message: 49700

The issue appears to be resolved. I have replaced the tubes with new tested OK ones - but this did not cure the needle bouncing around while tuning the radio.
What did appear to fix it was, the previous owner had made a mod to allow 28mhz transvertor (I think to allow TXing on 2m band) and this switch was on so turned off this switch and normal service has been resumed.

Cheers

John
M6jpe

this msg edited/shortened, as it contained already posted material. 73 Joe wb7uqu

49701. TS-530S antenna tuner

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-19 21:03:09 UTC
From: yams280@...
Topic: 49701 Message: 49701

Hi Guys,

I just got a TS-5230S and I am looking for an antenna tuner. I know the AT-230 is the one but, I have been getting out-bidded on Ebay and I am not sure of the conditions of those units. So my question is could I use one of the MFJ models with my TS-530S? Also, if HAMs on this list can mention the tuner they use if it is not an AT-230?

Thanks,

Travis,

73

49702. Re: [TS-520_820_530_830] Clearance on my Hybrid Parts...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-19 21:58:50 UTC
From: James Scribner
Topic: 49684 Message: 49702

To Group:
I have done done business with KE5FTF. His response to email questions were very timely, his pricing for a PLL board for my TS-820 was reasonable, and the part was shipped quickly and in good condition as described. This BTW, is an unsolicited response by a highly satisfied customer!
73
W5SWM-Jim

49703. Re: TS-530S antenna tuner

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-19 22:04:15 UTC
From: w5rkl@...
Topic: 49701 Message: 49703

Travis,

My question to you is, why do you think you need a tuner?

To answer your questions, can you use an MFJ tuner with a Kenwood TS-530? Yes, RF is RF whether it comes from a Kenwood, Heathkit, Hallicrafters, or Collins transmitter. You do not have to use a specific brand of tuner such as a Kenwood tuner with a Kenwood transceiver. You can use an MFJ, Drake, Johnson, or even an homebrew tuner with your Kenwood TS-530.

There are antennas that do not require a tuner. For example, a Hustler 5BTV 5 band vertical doesn't require a tuner. If the vertical antenna is mounted above ground then radials for each band will be require but if the vertical is ground mounted, radials are not always required. I have operated HF using a Huster 5BTV vertical with the 80 meter resonator removed making it a 4BTV vertical, mounted on the top of a chain link fence in the back yard without any radials and NO tuner!!

A simple dipole either mounted horizontal or in an inverted vee fashion does not require a tuner.

A multi element yagi such as a Mosley TA-33, does NOT require a tuner.

A few examples of antennas that require a tuner are

Long wire
G5RV
Loop antennas
Lazy H
Sturba Curtain

There are many other types of antennas, some require tuners while others do not. The only antenna I have used that required a tuner is the G5RV and I used a Drake MN-2000 tuner with Kenwood, Heathkit, and Drake transmitters.

The ARRL antenna handbook is an excellent reference/study book. I recommend you purchase one and spend some time studying antennas. You can make a lot of antennas yourself, saving you a lot of money.

73
Mike W5RKL

49704. Re: [TS-520_820_530_830] TS-530S antenna tuner

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-19 22:15:28 UTC
From: Joseph Stiles
Topic: 49701 Message: 49704

Travis,

You can use any tuner you choose, as long as it can handle the RF output...I have not used an MFJ tuner myself..others have though. I try and not endorse products...kinda keeps one out of trouble..in case something bad happened....hihi. You can mention/talk just about any Kenwood or other ham radio related items/topics...tuners included...as long as it conforms to the groups rules/policies which were sent to you automatically upon membership acceptance...or as you did just ask.

Also, you should get yourself(or build it) a dummy load also capable of handling a minimum of 100W for about 1-2 minutes...or longer.

And last but not least..remember to also use your call(if any) with your name when posting

73 Joe
WB7UQU
Group Co-owner

On Friday, September 19, 2014 2:37 PM, "yams280@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Hi Guys,
>
>
>I just got a TS-5230S and I am looking for an antenna tuner. I know the AT-230 is the one but, I have been getting out-bidded on Ebay and I am not sure of the conditions of those units. So my question is could I use one of the MFJ models with my TS-530S? Also, if HAMs on this list can mention the tuner they use if it is not an AT-230?
>
>
>Thanks,
>
>
>Travis,
>
>
>73
>
>
>

49705. Re: TS-530S antenna tuner

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-20 00:39:09 UTC
From: yams280@...
Topic: 49701 Message: 49705

Hi Mike,

I thought I needed the tuner so I would know a had a good SWR. I think ideal is 1:1. I think I will get the ARRL antenna handbook. Most of the info I have been getting has been word of mouth. I think the guys gave me info related to their radio setups.

Thanks Very Much,

Travis

49706. Re: [TS-520_820_530_830] TS-530S antenna tuner

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-20 00:42:39 UTC
From: Travis
Topic: 49701 Message: 49706

Ok Joe. Thanks for that info.

73 Travis
KK6FGY

On 9/19/2014 3:15 PM, Joseph Stiles stilesjoseph@...
[TS-520_820_530_830] wrote:
> Travis,
>
> You can use any tuner you choose, as long as it can handle the RF
> output...I have not used an MFJ tuner myself..others have though. I
> try and not endorse products...kinda keeps one out of trouble..in case
> something bad happened....hihi. You can mention/talk just about any
> Kenwood or other ham radio related items/topics...tuners included...as
> long as it conforms to the groups rules/policies which were sent to
> you automatically upon membership acceptance...or as you did just ask.
>
> Also, you should get yourself(or build it) a dummy load also capable
> of handling a minimum of 100W for about 1-2 minutes...or longer.
>
> And last but not least..remember to also use your call(if any) with
> your name when posting
> 73 Joe
> WB7UQU
> Group Co-owner
>
>
> On Friday, September 19, 2014 2:37 PM, "yams280@...
> [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:
>
>
>
> Hi Guys,
>
> I just got a TS-5230S and I am looking for an antenna tuner. I
> know the AT-230 is the one but, I have been getting out-bidded on
> Ebay and I am not sure of the conditions of those units. So my
> question is could I use one of the MFJ models with my TS-530S?
> Also, if HAMs on this list can mention the tuner they use if it is
> not an AT-230?
>
> Thanks,
>
> Travis,
>

> 73
>
>
>

49707. Re: [TS-520_820_530_830] Re: TS-530S antenna tuner

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-20 00:44:52 UTC
From: Travis
Topic: 49701 Message: 49707

Hi Mike,

I forgot to mention that I am planing on building a HexBeam for DX. My options will most likely broaden once I read the ARRL antenna handbook.

73 Travis
KK6FGY

On 9/19/2014 3:04 PM, w5rkl@... [TS-520_820_530_830] wrote:
>
> Travis,
>
> My question to you is, why do you think you need a tuner?
>
> To answer your questions, can you use an MFJ tuner with a Kenwood
> TS-530? Yes, RF is RF whether it comes from a Kenwood, Heathkit,
> Hallicrafters, or Collins transmitter. You do not have to use a
> specific brand of tuner such as a Kenwood tuner with a Kenwood
> transceiver. You can use an MFJ, Drake, Johnson, or even an homebrew
> tuner with your Kenwood TS-530.
>
> There are antennas that do not require a tuner. For example, a Hustler
> 5BTV 5 band vertical doesn't require a tuner. If the vertical antenna
> is mounted above ground then radials for each band will be require but
> if the vertical is ground mounted, radials are not always required. I
> have operated HF using a Huster 5BTV vertical with the 80 meter
> resonator removed making it a 4BTV vertical, mounted on the top of a
> chain link fence in the back yard without any radials and NO tuner!!
>
> A simple dipole either mounted horizontal or in an inverted vee
> fashion does not require a tuner.
>
> A multi element yagi such as a Mosley TA-33, does NOT require a tuner.
>
> A few examples of antennas that require a tuner are
>
> Long wire
> G5RV
> Loop antennas
> Lazy H
> Sturba Curtain
>
> There are many other types of antennas, some require tuners while
> others do not. The only antenna I have used that required a tuner is
> the G5RV and I used a Drake MN-2000 tuner with Kenwood, Heathkit, and
> Drake transmitters.

>
> The ARRL antenna handbook is an excellent reference/study book. I
> recommend you purchase one and spend some time studying antennas. You
> can make a lot of antennas yourself, saving you a lot of money.
>
> 73
> Mike W5RKL
>
>

49708. closed topic

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-20 03:33:03 UTC
From: Joseph Stiles
Topic: 49708 Message: 49708

Greetings group,

Some of you may have missed Mike-w5rkl's msg earlier about the derogatory and inflammatory accusation(s) regarding Bob Mansker-ke5ftf being CLOSED. Many here have dealt with Bob, myself included, and have had no problems.
If you would like to continue this discussion,please do so off-list.

So, let's consider this topic CLOSED.... and see what other goodies Bob is going to put up for sale

We know return you to our regular programming

73 Joe
WB7UQU
TS-520_820_530_830 Yahoo Group Co-owner

49709. Right place Right time

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-20 13:34:37 UTC
From: beeson.neil@...
Topic: 49709 Message: 49709

I just go a TOP SCORE. A Kenwood TS 520S, DG5, SP520, MC50, 2 sets of valves and heaps of manuals, both service and owners for a real song. At the moment I'm one very happy chappy. Talk about right time right place. I'm going to put it next to my TS 520SE and use it for 80 meters as I use the SE for 40 meters.
My mate was glad to see it go to a good home where it will be used.

73
Neil
VK6NSB

49710. RE: [TS-520_820_530_830] TS-530S antenna tuner

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-20 13:17:05 UTC
From: Jon & Jan
Topic: 49701 Message: 49710

Travis, the matching AT-230 is nice looking, but, any tuner will work. I'm using an LDG auto-tuner ... no special cables, and, works splendidly at 1/2 the price.

Jon, KØFOP

this post edited as it contained already posted material. 73 Joe wb7uqu

49711. Re: [TS-520_820_530_830] TS-530S antenna tuner

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-20 17:17:37 UTC
From: Bob
Topic: 49701 Message: 49711

Hi: I agree with this statement, but with some additions: I believe that MANUAL tuners generally have greater range and flexibility over auto tuners. On eBay, the advertisers for certain wire antennas state that their advertised frequency coverage is for manual tuners, that auto tuners may not cover all of the bands.

Secondly, again generally, certain brands, such as MFJ, don't have the quality reputation of other brands, or, some of the products may not be as well made as others within the product line..

Thirdly, not all tuners provide the same antenna options other than coax: single wire, balanced twin lead, built-in balun, etc. Some of the manual tuners have roller inductors, allowing complete variable operation, while others use tapped coils with a bandswitch. Some tuners, like the '230 have SWR and Power Meters built-in. Some have dummy loads.

Finally, there is the power handling capability, usually 100/200 watts or one or more KWs !

There are also differences in tuner design, such as "T" "L" and others.

If you scroll through the "Antenna Tuner" section on eBay, you will start to see the number of variations that there are... Lately, all prices for items associated with the TS-830s have gone through the roof!

73,

Bob / WA2JAJ

On Saturday, September 20, 2014 9:17 AM, "'Jon & Jan' springertool@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Travis, the matching AT-230 is nice
looking, but, any tuner will work. I'm using an LDG auto-tuner ... no special
cables, and, works splendidly at 1/2 the price.

Jon, KØFOP

this post edited as it contained already posted material. 73 Joe wb7uqu

49712. Re: [TS-520_820_530_830] TS-530S antenna tuner

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-21 01:29:11 UTC
From: ke5ftf@...
Topic: 49701 Message: 49712

I run a Dentron Super Tuner...
Think I paid $125 for it...
Works great & has 3 Big knobs... :)
Bob
KE5FTF
73s

49713. Question about the VFO-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-21 01:40:22 UTC
From: 22hornet@...
Topic: 49713 Message: 49713

Thanks to Ken K4EAA, I have all of the lights so I can for the first time in years see the dials on my TS-520, and the VFO-520, not only that but also for the first time in years there will be screws in every hole.

One thing I have also wondered about the VFO-520 is it's feet. it has a pair of conventional hard rubber feet up front, and in the back single folded piece of metal. is this bracket/foot supposed to hook into something. Ken has replacement feet and I just may get some and replace that bracket with a pair of feet to match the front.

Ken de W7ITC

49714. Re: [TS-520_820_530_830] TS-530S antenna tuner

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-21 02:15:25 UTC
From: 22hornet@...
Topic: 49701 Message: 49714

I have run a Dentron Super tuner for many years, several decades in fact. It is a great tuner. what you have to watch for if you run into one is it does not take kindly to hot switching, if you can examine the wafer switch before a purchase that is a good idea. Always go inside and retouch the center conductor soldering job on the SO-239's sometime they develop cold solder joints so this is a pre-emptive move.. The big difficultly this tuner has and it is strictly an age issue is the plastic stand offs for the air variable capacitors, the tapped inductor, and the 4 plastic spreaders for the tapped inductor they get very brittle with age. the plastic stand off's for the air variables, and the inductor you can just make out of a good piece polycarbonate. The 4 spreaders for the tapped inductor are also easy to deal with, just get some " Seal-All" at the hardware store or automotive parts store. Simply run a bead of it on top and a little on either side of the present plastic spreaders. It dries clear flexible, fixes any cracks and binds up everything else so there is no chance for the inductor coil to short out.. I recall paying $45 dollars for mine, but that was over 30 years ago. It does not have it's own SWR/Watt meters but in tuners of this age the meters are not worth a damn anyway you are better off with a modern stand alone meter set anyway.

Ken de W7ITC

"

49715. Re: Question about the VFO-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-21 13:12:14 UTC
From: w5rkl@...
Topic: 49713 Message: 49715

Ken,

I've never seen any discussion in theVFO-520 or VFO-820 about the rear "L Shape feet" other than it can be removed. I suspect you could find some hard rubber feet to replace that "L Shape Foot", I see extended feet sold on eBay quite often, look for Heathkit feet. There's a Heathkit SB-401 rise feet ad on eBay, #380997883844. The auction has the smaller rear feet with screws and the plastic riser feet and smaller hard rubber feet with screws. There are other feet ads just have a look to see what you might be interested in. You can also use wooden dowels cut to the size you need then drill a small hole in one end and use a small wooden screw to hold the wooden dowel to the cabinet. Cut the dowel slightly shorter than necessary then attach a peal and stick felt foot cut to the size of the dowel on the end that rests on the table. This change can be easily removed and no drilling holes to the cabinet is required, only the small holes in the wooden dowel.

73
Mike W5RKL

49716. Re: [TS-520_820_530_830] Re: Question about the VFO-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-21 13:55:14 UTC
From: worahm@...
Topic: 49713 Message: 49716

The bent bracket at the rear of the VFO supports the rear of the cabinet.

Kenwood supplied two rubber feet for the front of the cabinet. They also supplied a plastic extension that raise the front of the cabinet an additional 5/8". The plastic extensions screwed into the cabinet and the rubber feet screwed into the plastic extension.

Bill KB2GF

49717. HYBRID NET UPDATE (September 21, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-21 19:11:23 UTC
From: Mark Gilger
Topic: 49717 Message: 49717

Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm
The net started it's existence on November 1st,
2012. The yearly check-in totals are posted at
the bottom of this message. It showed we had a
10% increase in our Saturday check-ins and an 8%
on Sunday as compared to the 2012 check-ins.Â

There was no net Saturday.

The Sunday net was run by me, WB0IQK. There were
10 stations checking in under good band
conditions. We had the following number of radios checking in.

3 running TS-520(x)
2 running TS-530(x)
1 running TS-820(x)
2 running TS-830S
0 running TS-511
0 running 599 twins

The rest were running non Kenwood hybrid equipment.

I was running my TS-940S & Drake L4B amplifier.

We have been having several people checking in
regularly with their TS-430, TS-440, and
TS-940â□□s, which of course is not a hybrid,
although over 30+ years old. Everyone is welcome
as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a
net control station, please send me an email.
Currently it's just myself, WB2KNR and WB0SGA. I
would like to get several more. If we do, we can
alternate so everyone might be on a 3-4 week
rotation. It's a lot of fun and a good way to
make sure you station is optimized.

For anyone that has not heard, we have a new web
site that WB4HFN is hosting. He currently has a
very nice site for Drake, Collins and Heathkit

and now Kenwood Hybrids. Good quality manuals
plus sale flyers and brochures will be found
here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 ☐ Oct. 2012 Saturday total 754 check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins
November 2013, Saturday's net total = 94, Sunday's total = 85
December 2013, Saturday's net total = 87, Sunday's total = 103
January 2014, Saturday's net total = 71, Sunday's total = 82
February 2014, Saturday's net total = 80, Sunday's total = 85
March 2014, Saturday's net total = 82, Sunday's Total = 73
April 2014, Saturday's net total = 64, Sunday's total =43
May 2014, Saturday's net total = 66, Sunday's total = 35
June 2014, Saturday's net total = 43, Sunday's total = 59
July 2014, Saturday's net total = 24, Sunday's total = 46
August 2014, Saturday's net total = 62, Sunday's total = 53
September 2014, Saturday's net total = 31, Sunday's total = 23 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

49718. Repair Assistance request

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-21 19:14:48 UTC
From: kd8zaz@...
Topic: 49718 Message: 49718

Hello, I am new to the group and to ham radio. I've had my ticket a short time now and I'm working on obtaining my general. I have picked up a TS-820S that needs some help. It does not receive (just a barely audible hum), or transmit. (holes in the final tubes may be a problem there, I have some great pics of them) I have recapped it recently, and I'm confident the cap replacement is fine, although not verified more than just power up. I have schematics and some electronics experience. I'm looking for instruction on where to start in the diagnosis process.

...yes, it has the VFO plug installed. (pins 8/9 shorted)
I have replaced the tubes and the common parts that fail in the receive section. I left the SG switch off and have not tried to transmit since recap. no bias adjustment or neutralization has been done yet. I'm focusing on receive first. I realize I'm going to have to learn to read the schematics and test voltages. I just need an Idea on the process to start.

This rig had receive before I took delivery but a digital display problem the seller tried to correct. when I bought it, the display was ok but there was no sound. I did find a board not fully connected and a couple of shorted wires as well. I'm still unable to get sound however. I will start by tracing the previously shorted wires in the mean time.

Thanks, Dan
KD8ZAZ

49719. Re: Question about the VFO-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-22 05:49:40 UTC
From: 22hornet@...
Topic: 49713 Message: 49719

I was wondering if something was missing the "L" bracket foot just seems like it is missing something. At least I understand why the front feet have threaded inserts.

Ken de W7ITC

49720. Re: AT-200 Meter Faulty?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-22 13:23:11 UTC
From: christopherlarwood@...
Topic: 42100 Message: 49720

I've decided to reopen this case as well over a year ago, I resorted to a work around - using a separate SWR/Power meter inline with the tuner. While this has been functional I'd rather de clutter the desk if possible - or make room for something else!

Both power & SWR meter readings differ from my reference meter - A Diamond SX-100 which my modern radio tends to agree with also in it's inbuilt power/swr indications.

The user manual makes reference to variable resistors and that they shouldn't be touched. Instead return unit to Kenwood. It would be easy enough to mess about with these to approximate readings but is there a more accurate way to setting the meter up accurately - without a full test lab?

The other matter is the red SWR scale is rather faded having being exposed at some point in it's life to too much sun I expect. Chances of picking up a meter from a parts unit is highly unlikely. I'm wondering if getting a high res photo of a good meter, printing this on label paper and sticking it over the faded meter face is better than tracing over existing scale & numerals. Any suggestions?

Christopher Larwood
Vk5LTD

49721. Re: [TS-520_820_530_830] Re: Question about the VFO-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-22 17:50:47 UTC
From: worahm@...
Topic: 49713 Message: 49721

The metal rear support has two positions. Low to match the lower front height when you use just the rubber feet and the high position to match the front height when you use both the plastic spacer and the rubber feet. I like having my cabinets higher in the front so I set the rear bracket to the low position and use the extensions in the front.
Bill KB2GF

49722. Re: *** SPAM ***Re: [TS-520_820_530_830] Re: Question about the VFO-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-22 18:11:53 UTC
From: Mike W5RKL
Topic: 49713 Message: 49722

I mean no disrespect to anyone. A lot of this stuff can be solved by
simply using common sense.

73
Mike W5RKL
www.w5rkl.com

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

49723. Re: *** SPAM ***Re: [TS-520_820_530_830] Re: Question about the VFO-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-22 19:53:37 UTC
From: CROOKS David
Topic: 49713 Message: 49723

Mike,
Why are some of your posts titled "Re: *** SPAM ***..."?
Dave f4eyk

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

49724. Re: [TS-520_820_530_830] Re: AT-200 Meter Faulty?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-22 22:09:37 UTC
From: Lou Blasco
Topic: 42100 Message: 49724

Chris,

I don't know what is wrong with your meter but most of them employ a simple diode rectifier and trimpots to adjust the meter for full scale on each range. They are certainly not precision instruments but give you a good indication of your TX power.

You said you have a reference meter which I assume you trust. You can use it as the calibration source for your meter as long as you know it is accurate - +- a few percent is normal. You also need a good dummy load that present 50 ohms to the TX. Remember that a load that is not 50 ohms will affect your power reading somewhat.

Put the two power meters in series from your transmitter to the load. Key up the TX (constant carrier) and put out enough power that your meters read at least more than 70% of full scale preferably full scale on the 20W range and 200W range. You do this because you want to adjust your AT200 so it is reasonably accurate at full scale. Then adjust your AT200 so it matches the reading on your reference meter. On that point I would leave the 1kW range alone on the AT200 as it's unlikely that you would have 1kW at your disposal.

It should be clear that you need a carrier rather than an SSB transmission to do this adjustment. These meters are average reading and trying to whistle up the meter during adjustment is a poor technique.

Regards

Lou
VK3ALB

At 23:23 22/09/2014, you wrote:
>
>
>I've decided to reopen this case as well over a
>year ago, I resorted to a work around - using a
>separate SWR/Power meter inline with the
>tuner. While this has been functional I'd
>rather de clutter the desk if possible - or make room for something else!
>

>
>Both power & SWR meter readings differ from my
>reference meter - A Diamond SX-100 which my
>modern radio tends to agree with also in it's inbuilt power/swr indications.
>
>
>The user manual makes reference to variable
>resistors and that they shouldn't be
>touched. Instead return unit to Kenwood. It
>would be easy enough to mess about with these to
>approximate readings but is there a more
>accurate way to setting the meter up accurately - without a full test lab?
>
>
>The other matter is the red SWR scale is rather
>faded having being exposed at some point in it's
>life to too much sun I expect. Chances of
>picking up a meter from a parts unit is highly
>unlikely. I'm wondering if getting a high res
>photo of a good meter, printing this on label
>paper and sticking it over the faded meter face
>is better than tracing over existing scale & numerals. Any suggestions?
>
>
>Christopher Larwood
>
>Vk5LTD
>
>
>
>

49725. Re: [TS-520_820_530_830] Repair Assistance request

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-22 22:26:15 UTC
From: Joseph Stiles
Topic: 49718 Message: 49725

Dan,

Please make sure that when you get done with your further exam, that you state what board was not "fully connected," and what wires were shorted and where they came from or went to. It is possible that the prior owner has gotten some wire connections mixed up. Every bit of info helps.

There are several high resolution schematics out there for the 820(S).
I think Mike-w5rkl at: w5rkl "dot" com has it, n6wk "dot" com does, and Ken Kemski k4eaa "dot" com has them for sure. Remember also, BEFORE removing any wire/connector takes notes, draw a picture or take good clear color pictures!

73 Joe
WB7UQU

On Monday, September 22, 2014 9:30 AM, "kd8zaz@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Hello, I am new to the group and to ham radio. I've had my ticket a short time now and I'm working on obtaining my general. I have picked up a TS-820S that needs some help. It does not receive (just a barely audible hum), or transmit. (holes in the final tubes may be a problem there, I have some great pics of them) I have recapped it recently, and I'm confident the cap replacement is fine, although not verified more than just power up. I have schematics and some electronics experience. I'm looking for instruction on where to start in the diagnosis process.
>
>
>...yes, it has the VFO plug installed. (pins 8/9 shorted)
>I have replaced the tubes and the common parts that fail in the receive section. I left the SG switch off and have not tried to transmit since recap. no bias adjustment or neutralization has been done yet. I'm focusing on receive first. I realize I'm going to have to learn to read the schematics and test voltages. I just need an Idea on the process to start.
>
>
>This rig had receive before I took delivery but a digital display problem the seller tried to correct. when I bought it, the display was ok but there was no sound. I did find a board not fully connected and a couple of shorted wires as well. I'm still unable to get sound however. I will start by tracing the previously shorted wires in the mean time.
>
>
>Thanks, Dan
>KD8ZAZ

>
>
>
>
>
>
>

49726. Re: *** SPAM ***[TS-520_820_530_830] Re: TS820S Frequency Shift and Drive

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-22 23:56:30 UTC
From: light316@...
Topic: 49667 Message: 49726

Hi Mike and All,

I took apart my 820S to get at the VFO and N6WK pictures helped (http://www.n6wk.com/). I shot the DeOxit in the VFO and blew it out with canned air. I powered it up and it was still skipping ~3Khz. I noticed that RIT was very stable last week, so I cleaned out the VR2 pot on the AF-AVR board for adjusting RIT. I could not get it exactly zeroed, but the skipping frequency was gone! I am satisfied where it is now and happy I can hear people not jumping around all the time. :) It was hard trying to transmit / receive when it was bouncing around.

Thanks to all who sent comments to me!

73s
Mark
K9MVC

49727. Re: Repair Assistance request

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-23 01:20:12 UTC
From: 22hornet@...
Topic: 49718 Message: 49727

First off don't get frustrated, you have already made a good decision getting the Kenwood hybrid, and not the Yaesu FT-101. My advice is not to spend to much sweat on it it sounds like it had problems before you picked it up. You are just starting out don't saddle your self with a turkey you want to get on the air. There are a bunch of examples of the TS-520's, 530's, 820's and 830"s for sale at very reasonable prices.. I consider the Kenwood TS-830S to be the best hybrid transceiver ever made. The going rate for a very clean fully functional TS-830S is somewhere around $500 dollars. The TS-830S has a fabulous receiver and has that great vacuum tube sound. I have been running TS-520's for a couple of decades and they have done the job.

Ken de W7ITC

49728. R [TS-520_820_530_830] Re: Question about the VFO-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-23 02:09:18 UTC
From: W5RKL
Topic: 49713 Message: 49728

Hi Dave,

First, the "SPAM" label doesn't appear to be originating from my email
client, Thunderbird.

I'm going to see if this response has "SPAM" in the subject line.

73
Mike W5RKL

On 9/22/2014 2:53 PM, 'CROOKS David' dave.crooks@...
[TS-520_820_530_830] wrote:
>
> Mike,
> Why are some of your posts titled "Re: *** SPAM ***..."?
> Dave f4eyk
>
>
> ----------
> <http://www.avast.com/>
>
> This email is free from viruses and malware because avast! Antivirus
> <http://www.avast.com/> protection is active.
>
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

49729. Re R: [TS-520_820_530_830] Re: Question about the VFO-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-23 02:13:05 UTC
From: W5RKL
Topic: 49713 Message: 49729

Dave,

I didn't see SPAM being inserted in the subject line. I looked for it as the message came back through Yahoo Mail to my Thunderbird email client software and it wasn't there. I then looked on the group server message listings and it wasn't there either. I don't know where it's coming from.

I'll do some additional test to see if I can recreate the problem.

73
Mike W5RKL
www.w5rkl.com

On 9/22/2014 9:09 PM, W5RKL w5rkl@... [TS-520_820_530_830] wrote:
>
> Hi Dave,
>
> First, the "SPAM" label doesn't appear to be originating from my email
> client, Thunderbird.
>
> I'm going to see if this response has "SPAM" in the subject line.
>
> 73
> Mike W5RKL
>
> On 9/22/2014 2:53 PM, 'CROOKS David' dave.crooks@...
> [TS-520_820_530_830] wrote:
>>
>> Mike,
>> Why are some of your posts titled "Re: *** SPAM ***..."?
>> Dave f4eyk
>>
>>
>> ---
>> <http://www.avast.com/>
>>
>> This email is free from viruses and malware because avast! Antivirus
>> <http://www.avast.com/> protection is active.
>>
>>
>
>
>
> ---
> <http://www.avast.com/>
>

> This email is free from viruses and malware because avast! Antivirus
> <http://www.avast.com/> protection is active.
>
>
>

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49730. This is a test

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-23 02:20:00 UTC
From: W5RKL
Topic: 49730 Message: 49730

Other than me, nobody is to reply or respond to this test.

73
Mike W5RKL
www.w5rkl.com

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49731. Re: [TS-520_820_530_830] This is a test

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-23 02:21:43 UTC
From: W5RKL
Topic: 49730 Message: 49731

This should be the end of the test.

I apologize for taking up time on the server.

73
Mike W5RKL
www.w5rkl.com

On 9/22/2014 9:20 PM, W5RKL w5rkl@... [TS-520_820_530_830] wrote:
>
> Other than me, nobody is to reply or respond to this test.
>
> 73
> Mike W5RKL
> www.w5rkl.com
>
>
>
> ---
> <http://www.avast.com/>
>
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> <http://www.avast.com/> protection is active.
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>
>

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49732. Re: Re R: [TS-520_820_530_830] Re: Question about the VFO-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-23 02:22:37 UTC
From: Wes Will
Topic: 49713 Message: 49732

> I'll do some additional test to see if I can recreate the problem.

>> First, the "SPAM" label doesn't appear to be originating from my email
>> client, Thunderbird.

The "SPAM" thing is from some server between the originator and the
Yahoo dot bomb servers that is running a badly-configured
"SPAM-Assassin" anti-SPAM system.

The thing reads the mail message, and destination, as well as several
other headers in the email you send, "decides" that the message meets
the criteria which have been defined in its system, and adds to the
subject line.

It isn't you, it isn't likely to be your internet service provider, but
it is very likely someone that your ISP either uses as a mail relay or
as a mail-vetting system.

Talk with your internet provider. If they deny they are using
"SPAM-Assassin" software, then just ignore it. That's about all you can do.

--
Wes Will
SysAdmin
N9KDY

49733. Re: Re R: [TS-520_820_530_830] Re: Question about the VFO-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-23 02:39:59 UTC
From: W5RKL
Topic: 49713 Message: 49733

thyanks Wes. This does not happen with messages I respond to on Yahoo Heathkit or other Yahoo groups so it can't be anything connected to my ISP. I only see it on Yahoo Kenwood Group.

I'm not going to worry about it, I'll just delete the word SPAM from the address if I see it in a message I'm responding to.

73
Mike W5RKL
www.w5rkl.com

On 9/22/2014 9:22 PM, Wes Will wwill@... [TS-520_820_530_830] wrote:
>> I'll do some additional test to see if I can recreate the problem.
>>> First, the "SPAM" label doesn't appear to be originating from my email
>>> client, Thunderbird.
> The "SPAM" thing is from some server between the originator and the
> Yahoo dot bomb servers that is running a badly-configured
> "SPAM-Assassin" anti-SPAM system.
>
> The thing reads the mail message, and destination, as well as several
> other headers in the email you send, "decides" that the message meets
> the criteria which have been defined in its system, and adds to the
> subject line.
>
> It isn't you, it isn't likely to be your internet service provider, but
> it is very likely someone that your ISP either uses as a mail relay or
> as a mail-vetting system.
>
> Talk with your internet provider. If they deny they are using
> "SPAM-Assassin" software, then just ignore it. That's about all you can do.
>

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49734. Kenwood TS820 for sale

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-23 02:50:22 UTC
From: mark.allendorf@...
Topic: 49734 Message: 49734

I am not electronically inclined and have another radio that better meets my needs. My Kenwood TS820 is putting out about 80 watts. I have received compliments on how it sounded when I used it. I would prefer a local pick up but will ship it for actual costs if necessary. I would like $275.00 for the radio. I also have a Kenwood MC50 mic that I would sell for $50.00 and a Kenwood R2000 receiver that I would sell for $300.00. All would be local pickup or actual shipping charges added if you needed me to ship it to you. Let me know by email if interested. These items can be seen on my QRZ page. Thanks, Mark KM4AHP

49735. Re: R [TS-520_820_530_830] Re: Question about the VFO-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-23 14:01:45 UTC
From: CROOKS David
Topic: 49713 Message: 49735

Mike,
No "spam" in subject line.
Dave f4eyk

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http://www.avast.com

49736. Re: Repair Assistance request

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-23 14:56:06 UTC
From: tjb813@...
Topic: 49718 Message: 49736

I found myself in your situation a few years ago. If you have not worked on radios of this type before, fixing this can be a daunting task. The 820 is fairly complicated. But like anything else, a complicated system is a combination of many simpler circuits. I highly recommend getting a LARGE printout of the schematic. I have also nice printouts of the schematics for the different boards I can send you.

You will need an RF signal generator, a frequency counter, a good multimeter, a scope (really helps in some cases) and patience. Read the service manual. Learn the circuits and their inputs and outputs. Knowledge of the radio is your best tool.

start with the simple things:
A simple thing to check are the relays. Dirty contacts make the rig act goofy.
Check the switch contacts. Clean them if dirty or intermittent.
Check the filter capacitors for bulging relief points. If you have an ESR meter check the filter caps with that also.
Lots of connectors in this radio, make sure they are clean and not oxidized.

With that done then:

Check the power supply and the regulators. Make sure they are working.

Then verify the het oscillator.
Then check the VFO

Inject a signal into the antenna connector and start a trace through the system.

Take a close look at the RF attenuator switch mounted on the front panel. I have had that one fool me. Broken wires and burned resistors.

Pretty general stuff, If you have worked on other electronics, you've got the picture. Do not blindly replace components. That usually results in creating other issues, frustration and cost.

There are many very knowledgeable people on this site that are glad to help. But, post with detailed information on what you find as you troubleshoot.

Good luck.

Tim
KD8CN

49737. Kenwood R599A Receiver

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-23 15:23:25 UTC
From: Mike W5RKL
Topic: 49737 Message: 49737

I have a Kenwood R599A receiver that's excess to my needs. The receiver has the 160 thru 10 (no WARC bands), 11 meter and WWV band switch positions plus both 6 and 2 meter converters. Receiver has ALL filters, CW, SSB, AM and FM. Modes include CW, SSB (USB and LSB), AM, and FM. Receiver is all solid state. I am including my last 16 pin rear panel plug with hood and strain relief, it's the vary hard to find plug.

The one problem the receiver has is the VFO warbles when tapping on the cabinet (it's not a dirty variable capacitor shaft to frame flex connection issue). The warble problem was there when I bought the receiver. I was going to pull the VFO to fix the warble problem but never got around to it. All dial lamps work, CAL works, meter works, and the top cover hold down snaps are there and work. There are no modifications that I am aware. The cabinet paint is original and the inside is very clean. Bands 160 thru 10, no WARC bands, work as do ALL modes, including the squelch control which works in ALL modes. Tuning is very smooth. I used this R599A receiver with my Heathkit SB-400 transmitter and vintage Heathkit Marauder HX-10 transmitter, it worked very well. I have a few R599 and T599 manuals on my website, unfortunately I don't have the R599A manual. All knobs are original and are not broken or chipped.

www.w5rkl.com

You can access the list of R599/T599 manual on my website. Once the home page comes up, click on Manuals, Docs, and Mods link and when page comes up, go to Kenwood R599/T599 section.

I am asking $150 plus actual shipping cost (I don't pack the item, I let UPS or FedEx agent do the packing). If interested drop me an email at my call at yahoo dot com.

73
Mike W5RKL
www.w5rkl.com

--

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http://www.avast.com

49738. Band switch

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-24 10:01:36 UTC
From: beeson.neil@...
Topic: 49738 Message: 49738

Can someone tell me if the TS820S and TS830S band switch is the same?? I've got a mate with a crook 830 switch and I've got one out of a 820.
73
Neil
VK6NSB

49739. Re: [TS-520_820_530_830] Band switch

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-24 12:35:57 UTC
From: Mike W5RKL
Topic: 49738 Message: 49739

Neil,

Unfortunately the band switch in the TS-820 is not the same as the band switch in the 830.

Email Bob Mansker, KE5FTF, ke5ftf at mail dot com, he may have a band switch for the 830.

73
Mike W5RKL
www.w5rkl.com

On 9/24/2014 5:01 AM, beeson.neil@... [TS-520_820_530_830] wrote:
>
> Can someone tell me if the TS820S and TS830S band switch is the same??
> I've got a mate with a crook 830 switch and I've got one out of a 820.
>
> 73
>
> Neil
>
> VK6NSB
>
>

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http://www.avast.com

49740. Re: Band switch

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-24 14:40:35 UTC
From: ke5ftf@...
Topic: 49738 Message: 49740

Hi Neil.
I have a clean 830S Band Switch...
Sell for $20.00 plus $4.00 to mail...
Bob
KE5FTF
73s

Note... contact me off board...

49741. Selling ALL hybrid parts

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-24 16:39:40 UTC
From: ke5ftf@...
Topic: 49741 Message: 49741

Just an update...
Have not had a fair offer on my Kenwood Hybrid parts to date...
Sooooo, will continue to sell parts at reduced pricing on QTH.com classifieds...
Thanks,
Bob
KE5FTF
73s
****

49742. Arduino based DG5 emulator

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-24 21:01:14 UTC
From: sleander@...
Topic: 49742 Message: 49742

I have been working on a DG5 emulator after being inspired by a series of posts on Toddfun.com (http://www.toddfun.com/2013/02/07/arduino-frequency-display-for-kenwood-ts-520s-hf-ham-radio-part-1/). I have been in touch with Todd about the project, he never finished it because he didn't have a TS-520.

I was looking for a computer interface to simplify logging when I am using my TS-520S, not a digital display. By following what Todd had done, I was able to build the circuit and write the code. Later, I added an LCD display so it could work standalone and truly emulate a DG5. I had some PCB's made, and am currently working on the second version with some corrections and new features.

You can see pics, video's, and the schematic here: http://www.kv6o.com http://www.kv6o.com

http://www.kv6o.com http://www.kv6o.com

View on www.kv6o.com http://www.kv6o.com
Preview by Yahoo

Just thought I'd throw it out there in case anyone is interested in building one!

I am also interested in a DDS based VFO using the Arduino, wondering what folks experiences have been. I have a AD8950 DDS board that I have been playing around with here, and I did see what Bart, KB8BAB has done, but that's waaaaay more than I am looking to do! I just want to emulate a VFO-520, a chassis with an Arduino, the DDS board, a rotary encoder, LCD display and maybe a couple of switches should be all that's needed.

Steve
KV6O

49743. Antennas

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-24 20:41:54 UTC
From: carvintom@...
Topic: 49743 Message: 49743

OK, so this isn't truly a Kenwood specific question, but it is a Ham question:

Which is better for tensioning a long wire antenna? a screen-door spring? or a weight? Why?

If the answer is "a weight", what is the best way to "contain it" so that it doesn't swing around violently in the wind?

I always used springs in the past but that was many moons ago and maybe people have better ideas now.

Tom, K3WFN

49744. Re: [TS-520_820_530_830] Antennas

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-25 05:42:55 UTC
From: Greg Albers
Topic: 49743 Message: 49744

I use a pulley and add bricks as required.
Sent from my Virgin Mobile phone.

"carvintom@gmail.com [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>OK, so this isn't truly a Kenwood specific question, but it is a Ham question:
>
>Which is better for tensioning a long wire antenna? a screen-door spring? or a weight? Why?
>
>If the answer is "a weight", what is the best way to "contain it" so that it doesn't swing around violently in the wind?
>
>I always used springs in the past but that was many moons ago and maybe people have better ideas now.
>
>Tom, K3WFN
>

49745. Re: [TS-520_820_530_830] Antennas

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-25 05:54:18 UTC
From: Lou Blasco
Topic: 49743 Message: 49745

It depends on how much tension you require.

I use a pulley with two plastic one gallon bottles of water. That is enough to keep the wire taut and horizontal. Even when the wind blows strongly the bottles move a little but not wildly - about a foot each way. I guess you could use a couple of slack ropes to restrain the weights from moving in certain directions if space around them is tight.

Lou
VK3ALB

At 06:41 25/09/2014, you wrote:
>
>
>OK, so this isn't truly a Kenwood specific question, but it is a Ham question:
>
>Which is better for tensioning a long wire antenna? a screen-door
>spring? or a weight? Why?
>
>If the answer is "a weight", what is the best way to "contain it" so
>that it doesn't swing around violently in the wind?
>
>I always used springs in the past but that was many moons ago and
>maybe people have better ideas now.
>
>Tom, K3WFN

49746. Re: Arduino based DG5 emulator

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-25 12:39:10 UTC
From: wagstw46@...
Topic: 49742 Message: 49746

Go after the TS-820S DG-1 next and you will be a hero! The mixing scheme is in the Service manual Pg 73.

Terry K9TW

49747. RE: [TS-520_820_530_830] Antennas

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-25 11:19:03 UTC
From: fpath fpath
Topic: 49743 Message: 49747

I use cast iron sash window weights held by springs, because they come in all different weights makes it easier to adjust and they are slim line

73s
Dave
VK5PDL

49748. Re: [TS-520_820_530_830] Antennas

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-25 18:21:07 UTC
From: Wes Will
Topic: 49743 Message: 49748

On 09/24/2014 03:41 PM, carvintom@... [TS-520_820_530_830] wrote:
> OK, so this isn't truly a Kenwood specific question, but it is a Ham question:
>
> Which is better for tensioning a long wire antenna? a screen-door spring? or a weight? Why?

A weight, because of the range of automatic adjustment. With a spring, if there is a lot of wind, you can easily reach either the modulus of stretch for the spring (and thus the spring goes "SPROING!" and breaks) or the modulus of elasticity of the wire ((and thus the wire goes "SPROING!" and breaks).

I've never seen the need to worry about the counterweight swinging too far. I guess it could be an issue, but since every time I've done this, I have made the default "no wind" (or very light winds) position of the counterweight, "ON THE GROUND" - even with our storms the problem never came up. And since wire sag doesn't make much difference in the signal (and can't be eliminated anyway, it would take infinite force to get a "perfectly straight" wire - in other words in this universe it isn't possible) an iron sash-weight or a concrete block (7 or 8 kg, ~15 pounds?) has been plenty of weight for the purpose.

--
Wes Will
N9KDY

49749. Re: [TS-520_820_530_830] Band switch

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-25 08:29:34 UTC
From: beeson.neil@...
Topic: 49738 Message: 49749

Thanks Mike, I've passed Bob's details to my friend. 73
Neil
VK6NSB

49750. Re: [TS-520_820_530_830] Arduino based DG5 emulator

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-25 13:53:04 UTC
From: Daniel Curry
Topic: 49742 Message: 49750

Steve,

I would be interested in that project. Would you care to take the discussion off list?

Daniel
KK4SWX

this msg edited as it contained already posted material. 73 Joe wb7uqu

49751. Re: [TS-520_820_530_830] Antennas

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-25 18:26:06 UTC
From: Tom Maier
Topic: 49743 Message: 49751

Good point on the "zero wind" position! You must be a fellow engineer[?] Tom, K3WFN

this msg edited as it contained already posted material. 73 Joe wb7uqu

49752. Re: [TS-520_820_530_830] Antennas

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-25 13:59:34 UTC
From: jweigh@...
Topic: 49743 Message: 49752

Guys, there is a nifty antenna tensioner available from antennatensioner.com.

It's a mount it and forget it setup. I have seen one in action and it works exactly as it shows in the video.

Take a look and see what you think.
Jerry, K4GEW

49753. Re: Band switch

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-25 08:19:16 UTC
From: beeson.neil@...
Topic: 49738 Message: 49753

Thanks Bob. I'll let my friend know and he can decide what he wants to do. 73
Neil
VK6NSB

49754. Re: [TS-520_820_530_830] Antennas

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-25 21:09:05 UTC
From: Wes Will
Topic: 49743 Message: 49754

On 09/25/2014 01:26 PM, Tom Maier carvintom@...
[TS-520_820_530_830] wrote:
> Good point on the "zero wind" position! You must be a fellow engineer[?] Tom, K3WFN

Gee....I guess it shows.... Industrial, started out in Mechanical back in the 70's, Electrical when I have to. Problem with EE for me is that I started out before High School learning that electric current ran the "wrong" way....

(High School is where I spent 4 years in the electronics shop down in the industrial ed wing, and 3 years (concurrently) in the metals shop, and summers since I could pull the bellows handles doing odd jobs for two old guys who had the last smithy in the area. Couple of semesters in the small engine repair shop, even more time down the hall mucking with an IBM 360-13, and blowing up the biology and chemistry labs. Fulminated mercury is just too derned easy to make. And a nightmare to get shot of once you realize that you actually HAVE made it.... There's a small crater in the sidewalk outside that window.)

Yeah. I'm one of -those-. I read entirely too much. Dangerous -and- crazy.

I WILL build something to make it to low earth orbit one of these days. It'll have a 2-meter beacon on board at the very least. The engine design should have plenty of thrust and to spare, using JP-4 and hydrogen peroxide, with a platinum ceramic catalyst (scavenged from a car's catalytic converter of course).

Confounded venturi throat and combustion chamber can't be made of anything I can machine at home, too bleeding hot. It just disintegrates and blows the <heck> up. Maybe graphite? Some kind of composite?

Oh well. Getting too old for this insanity, I might as well just admit it and give up.

--
Wes Will
SysAdmin
N9KDY

49755. Re: [TS-520_820_530_830] Antennas

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-25 21:11:24 UTC
From: Wes Will
Topic: 49743 Message: 49755

On 09/25/2014 04:09 PM, Wes Will wwill@...
[TS-520_820_530_830] wrote:

Apologies to the list, that was meant to go only to carvintom@....
I missed somehow when I went to replace the address and hit "send." My
mistake. Please excuse the crazy guy.

--
Wes Will
N9KDY

49756. Re: [TS-520_820_530_830] Antennas

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-25 21:10:40 UTC
From: Wes Will
Topic: 49743 Message: 49756

On 09/25/2014 04:09 PM, Wes Will wwill@...
[TS-520_820_530_830] wrote:

Apologies to the list, that was meant to go only to carvintom@....
I missed somehow when I went to replace the address and hit "send." My
mistake. Please excuse the crazy guy.

--
Wes Will
N9KDY

49757. Re: [TS-520_820_530_830] Antennas

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-25 21:13:50 UTC
From: CROOKS David
Topic: 49743 Message: 49757

Tom,
You said it. "this isn't truly a Kenwood specific question"
Dave f4eyk

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http://www.avast.com

49758. Re: [TS-520_820_530_830] Antennas

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-25 21:19:53 UTC
From: clifford wright
Topic: 49743 Message: 49758

I must admit, I'm a bit puzzled about all these questions about springs
and counterweights for wire antennas. Is this perhaps needed in areas
where you get winter ice buildup?
We don't get snow in Auckland and only very occasional winter frosts, so
all I've ever used is a halyard with a bit of natural spring to it. We
do get winds up to 150 km/hr sometimes and although I'm in a expos
ed site I've never had a failure.
ZL1BDA

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http://www.avast.com

49759. Re: [TS-520_820_530_830] Antennas

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-25 22:20:21 UTC
From: Tom Maier
Topic: 49743 Message: 49759

The problem is that the tree on the one end moves pretty good when the wind blows. Once I get it up there, I'd like to see it stay there[?] Tom, K3WFN

this msg edited as it contained already posted material. 73 Joe wb7uqu

49760. Re: [TS-520_820_530_830] Arduino based DG5 emulator

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-25 23:42:48 UTC
From: sleander@...
Topic: 49742 Message: 49760

Daniel -

Sure, I can be reached at my callsign (previously posted) at arrl dot net.

Steve

Please remember to properly sign your posts/msgs with name & call..tnx n 73 Joe wb7uqu

49761. Re: [TS-520_820_530_830] Antennas

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-26 00:39:04 UTC
From: meyer.
Topic: 49743 Message: 49761

Tom
I use the black tarp straps from the local trk pts shop. They come in all sizes and do not deteriate in the weather. I also use trees and your right they do move in the wind.

KC0NPJ Gary

From: mailto:TS-520_820_530_830@yahoogroups.com
Sent: Thursday, September 25, 2014 5:20 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830] Antennas

The problem is that the tree on the one end moves pretty good when the wind blows. Once I get it up there, I'd like to see it stay there[?] Tom, K3WFN

this msg edited as it contained already posted material. 73 Joe wb7uqu

49762. Re: [TS-520_820_530_830] Antennas

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-26 00:54:23 UTC
From: Gregory Albers
Topic: 49743 Message: 49762

I use 3 bricks on the long end of my 80-10 Windom. The bricks are on the end of a rope and are about 6 ft above the ground. They move very little in the wind.
Sent from Greg Albers KC9VVU iPad

On Sep 24, 2014, at 4:41 PM, "carvintom@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

> OK, so this isn't truly a Kenwood specific question, but it is a Ham question:
>
> Which is better for tensioning a long wire antenna? a screen-door spring? or a weight? Why?
>
> If the answer is "a weight", what is the best way to "contain it" so that it doesn't swing around violently in the wind?
>
> I always used springs in the past but that was many moons ago and maybe people have better ideas now.
>
> Tom, K3WFN
>
> 3
>
>

49763. Re: [TS-520_820_530_830] Antennas

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-26 01:15:11 UTC
From: asoto66@...
Topic: 49743 Message: 49763

I have one end of my OCF fixed to the corner of the house and the far end at the top of a palm tree (my only tall tree). It sways a lot in the wind and we have strong windy storms down here in south florida all summer. I have a pulley at the top of the palm with a lead diving weight hanging down to a few feet above ground. I don't let it go lower so the lawn guys don't go over it.

It works great and has survived two years so far with no issues and sometimes i see it going up and down 2 or 3 feet to compensate for the swaying. The line keeps the movement of the antenna wire to a minimum. The line and antenna wire are still going strong. Near the bottom i tied a loose loop around the tree and the drop line so it only goes up and down and not swing too far away from the tree.
regards, Al kj3q

49764. Re: [TS-520_820_530_830] Antennas

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-26 04:39:43 UTC
From: clifford wright
Topic: 49743 Message: 49764

Ah! All is explained. I have never had a tree at one end of my antenna
since at least 1963.
It is clear that this might indeed move around a lot more than a
properly guyed mast.
ZL1BDA

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http://www.avast.com

49765. Re: [TS-520_820_530_830] Antennas

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-26 16:48:50 UTC
From: John Davidson
Topic: 49743 Message: 49765

We get ice here in Michigan but the real hazzard is wind blowing the trees around where wire antennas are attached and can get stretched or broken .
The air has to be below freeing, humid and very calm for Ice to form on wires.
I worry about my Yagis getting iced more than my wires, In 50+ years I never lost an antenna to ice !
Here it's falling treelimbs doing damage to the wire antennas.

My radio is Ham Radio...CW is Real Radio
73, John...K8JD

On Thursday, September 25, 2014 9:15 PM, "asoto66@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

I have one end of my OCF fixed to the corner of the house and the far end at the top of a palm tree (my only tall tree). It sways a lot in the wind and we have strong windy storms down here in south florida all summer. I have a pulley at the top of the palm with a lead diving weight hanging down to a few feet above ground. I don't let it go lower so the lawn guys don't go over it.

It works great and has survived two years so far with no issues and sometimes i see it going up and down 2 or 3 feet to compensate for the swaying. The line keeps the movement of the antenna wire to a minimum. The line and antenna wire are still going strong. Near the bottom i tied a loose loop around the tree and the drop line so it only goes up and down and not swing too far away from the tree.
regards, Al kj3q

49766. TS 530 FOR SALE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-26 18:08:34 UTC
From: w2fid@...
Topic: 49766 Message: 49766

I am selling my TS530 transceiver. I am the original owner of this radio. Works perfectly.
NO pets, NO smoking, NO contests. New tubes (NOS) 8/2014. Full output on all bands.
Original manual.
$400.00 plus actual shipping cost.
The autec meter is NOT included in this sale.
Contact me off list @ 631-668-3444. (Please no calls after 9 PM.)
Marshall
W2FID

49767. item for sale

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-26 22:29:04 UTC
From: Joseph Stiles
Topic: 49767 Message: 49767

This msg is a resend from the group's msg conversation archive
>>
>>msg #49766 accepted by system: 9-26-14 @1108
>>
>>
>>
>>I am selling my TS530 transceiver. I am the original owner of this radio. Works perfectly.
>>NO pets, NO smoking, NO contests. New tubes (NOS) 8/2014. Full output on all bands. Original manual.
>>$400.00 plus actual shipping cost.
>>The autec meter is NOT included in this sale.
>>Contact me off list @ 631-668-3444. (Please no calls after 9 PM.)
>>Marshall
>>W2FID

73 Joe
WB7UQU

49768. Heathkit HD-1410 and 520s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-26 22:43:56 UTC
From: kj4fgi@...
Topic: 49768 Message: 49768

I'm trying to use the 1410 with my ts-520s, every time I plug it in the rig keys. It works in my ts-440s no problem. I found this: Q4 and Q5 are the "Negative" keying transistors. More than likely Q5 is shorted internally which is causing the 520 to key up when the keyer is plugged into the CW socket.

If Q5 is found to be bad, the NTE-288 can be used as a replacement. Mouser sells the NTE-288 under part number 526-NTE288 for $1.05 each.

They seem to be good, the 520s works with a straight key.
Any Ideas?

thanks Eddie - kj4fgi

49769. Re: [TS-520_820_530_830] Heathkit HD-1410 and 520s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-27 01:24:17 UTC
From: Bill Houghton
Topic: 49768 Message: 49769

Eddie,

I couldnm't kind any specs on the keying requirement for the TS-520. So here is what I would do.

Connect a phone plug with wires to the KEY jack. One of the wires will be connected to the chassis and the will be "hot". Using a VTVM or DMM measure the voltage drop between the hot wire and ground. Note, I have read that it might be a negative voltage. This will be the open circuit voltage.

Next, connect an ammeter between the two wires. This WILL key the rig so do it on a dummy load. Quickly measure the current as you don't want to keep the rig keyed for more than a few seconds if operating at full power. You might even be able to do this test with the heaters off.

You now know how much voltage the keyer need to withstand and how much current it needs to sink. Compare that to the specs of the output transistors in the keyer.

73,

Bill, WA6NEQ

On Fri, 9/26/14, kj4fgi@... [TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com> wrote:

Subject: [TS-520_820_530_830] Heathkit HD-1410 and 520s
To: TS-520_820_530_830@yahoogroups.com
Date: Friday, September 26, 2014, 3:43 PM

I'm trying to use the 1410 with my ts-520s, every time I
plug it in the rig keys. It works in my ts-440s no problem.
I found this: Q4 and Q5 are the
"Negative" keying transistors. More than likely Q5
is shorted
internally which is causing the 520 to key up when the keyer
is plugged into
the CW socket.

If Q5 is found to be bad, the NTE-288 can be
used as a replacement. Mouser sells the NTE-288 under part
number 526-NTE288
for $1.05 each.
They seem to be good, the 520s
works with a straight key.Any Ideas?
   thanks Eddie -
kj4fgi

49770. Re: [TS-520_820_530_830] Heathkit HD-1410 and 520s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-27 01:31:43 UTC
From: Bill Houghton
Topic: 49768 Message: 49770

Oops, no proofreading - sorry.

Eddie,
One wire will be chassis ground and the other wire will be "hot" on the key jack/plug.

73,

Bill, WA6NEQ

On Fri, 9/26/14, Bill Houghton rdrbill@... [TS-520_820_530_830]
<TS-520_820_530_830@yahoogroups.com> wrote:

Subject: Re: [TS-520_820_530_830] Heathkit HD-1410 and 520s
To: TS-520_820_530_830@yahoogroups.com
Date: Friday, September 26, 2014, 6:24 PM

Eddie,

I couldnm't kind any specs on the keying requirement for
the TS-520. So here is what I would do.

Connect a phone plug with wires to the KEY jack. One of the
wires will be connected to the chassis and the will be
"hot". Using a VTVM or DMM measure the voltage
drop between the hot wire and ground. Note, I have read that
it might be a negative voltage. This will be the open
circuit voltage.

Next, connect an ammeter between the two wires. This WILL
key the rig so do it on a dummy load. Quickly measure the
current as you don't want to keep the rig keyed for more
than a few seconds if operating at full power. You might
even be able to do this test with the heaters off.

You now know how much voltage the keyer need to withstand
and how much current it needs to sink. Compare that to the
specs of the output transistors in the keyer.

73,

Bill, WA6NEQ

On Fri, 9/26/14, kj4fgi@yahoo.com [TS-520_820_530_830]
<TS-520_820_530_830@yahoogroups.com> wrote:

Subject: [TS-520_820_530_830] Heathkit HD-1410 and 520s

To: TS-520_820_530_830@yahoogroups.com

Date: Friday, September 26, 2014, 3:43 PM

I'm trying to use the 1410 with my ts-520s, every time
I

plug it in the rig keys. It works in my ts-440s no
problem.

I found this: Q4 and Q5 are the

"Negative" keying transistors. More than likely
Q5

is shorted

internally which is causing the 520 to key up when the
keyer

is plugged into

the CW socket.

If Q5 is found to be bad, the NTE-288 can be

used as a replacement. Mouser sells the NTE-288 under
part

number 526-NTE288

for $1.05 each.

They seem to be good, the 520s

works with a straight key.Any Ideas?

thanks Eddie -

kj4fgi

49771. Re: [TS-520_820_530_830] Heathkit HD-1410 and 520s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-27 03:08:35 UTC
From: Ed
Topic: 49768 Message: 49771

Hi Bill
Thanks, reading your post I read "it might be a negative voltage" my TS-440 must have been positive so what I did was just reverse the wires on the plug and it works fine now. Thanks to your post a problem has been solved

Thanks Bill
God Bless
Eddie - kj4fgi

this post edited as it contained already posted material. 73 Joe wb7uqu

49772. Re: [TS-520_820_530_830] Heathkit HD-1410 and 520s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-27 05:17:52 UTC
From: Bill Houghton
Topic: 49768 Message: 49772

Eddie,

You're welcome. Glad to know that the problem is solved.

73,

Bill, WA6NEQ

On Fri, 9/26/14, Ed kj4fgi@... [TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com> wrote:

Subject: Re: [TS-520_820_530_830] Heathkit HD-1410 and 520s
To: TS-520_820_530_830@yahoogroups.com
Date: Friday, September 26, 2014, 8:08 PM

Hi Bill Thanks, reading your post I read
"it might be a
negative voltage" my TS-440 must have been positive so
what I did was just reverse the wires on the plug and it
works fine now. Thanks to your post a problem has been
solved
Thanks
Bill God
Bless
  Eddie - kj4fgi
this post edited as it contained
already posted material. 73 Joe wb7uqu

49773. TS-520s and Heathkit SB-200

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-27 04:31:27 UTC
From: kj4fgi@...
Topic: 49773 Message: 49773

Question, I haven't seen a cable for sale for keying an amp.
How would I know how to excite an SB-200, and do I have to use the ALC?
My TS-440s did not need it but the 520s is my first Tube and I'm not sure
what to do.

Thanks ahead of time.
Eddie- kj4fgi

49774. Re: [TS-520_820_530_830] TS-520s and Heathkit SB-200

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-27 15:19:21 UTC
From: Mike W5RKL
Topic: 49773 Message: 49774

Eddie,

Did you read the TS-520 manual, pages 15 and 16? The top left corner of page 16 shows the "REMOTE" 8 pin octal socket pin outs.

You did not provide the make and model of amplifier you will be using.

The TS-520S can be used with most amplifiers without an relay interface.

For best performance you should use the ALC connection.

The TS-520S 8 pin octal socket, pin 5, is the Normally Open relay connection with ground on pins 1 or 4. Pin 5 shorts the amplifier's center terminal on the amplifier's RELAY socket to ground (pins 1 or 4) when the 520 transmitter is keyed, activating the amplifier.

The TS-520S 8 pin octal socket, pin 6, is the ALC connection with ground on pins 1 or 4. The amplifier's ALC connection is made to pin 6 with ground on pins 1 or 4.

Most modern amplifiers use 12VDC 80 to 100ma switching relays. The TS-520S can easily handle that voltage and current ratings.

Use shielded cable to connect the amplifier to the ALC and relay connections on the TS-520S REMOTE octal socket.

73
Mike W5RKL
www.w5rkl.com

On 9/26/2014 11:31 PM, kj4fgi@... [TS-520_820_530_830] wrote:
>
> Question, I haven't seen a cable for sale for keying an amp.
>
> How would I know how to excite an SB-200, and do I have to use the ALC?
>
> My TS-440s did not need it but the 520s is my first Tube and I'm not sure
>
> what to do.
>
>
> Thanks ahead of time.
>
> Eddie- kj4fgi
>
>

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http://www.avast.com

49775. RE: [TS-520_820_530_830] TS-520s and Heathkit SB-200

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-27 15:51:57 UTC
From: Brad Allen
Topic: 49773 Message: 49775

Eddie, the 440 certainly did need the ALC as that is available and recommended operating practice. It is always good practice to keep your audio signal under control. Your SB-200 manual should be able to show you connections. As far as a relay interface, maybe not necessary, but certainly a good failsafe practice to provide a good dry contact EXTERNAL of the radio simply because you don't want to stress the relays on the radio boards. It seems from your comments that if you want to run an amp, you should be sure to read up on the practices of running one instead of onsey twosey answers. Personally I see no need for one. I chat around the world on 100 watts on a compromised vertical. You have a vintage radio and finding a cable all made up for you just may not be out there. Fire up that soldering iron and make one, that is what Ham radio is all about. Brad KB2CHY

From: TS-520_820_530_830@yahoogroups.com
[mailto:TS-520_820_530_830@yahoogroups.com]
Sent: Saturday, September 27, 2014 11:19 AM
To: TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830] TS-520s and Heathkit SB-200

Eddie,

Did you read the TS-520 manual, pages 15 and 16? The top left corner of page 16 shows the "REMOTE" 8 pin octal socket pin outs.

You did not provide the make and model of amplifier you will be using.

The TS-520S can be used with most amplifiers without an relay interface.

For best performance you should use the ALC connection.

The TS-520S 8 pin octal socket, pin 5, is the Normally Open relay connection with ground on pins 1 or 4. Pin 5 shorts the amplifier's center terminal on the amplifier's RELAY socket to ground (pins 1 or 4) when the 520 transmitter is keyed, activating the amplifier.

The TS-520S 8 pin octal socket, pin 6, is the ALC connection with ground on pins 1 or 4. The amplifier's ALC connection is made to pin 6 with ground on pins 1 or 4.

Most modern amplifiers use 12VDC 80 to 100ma switching relays. The TS-520S can easily handle that voltage and current ratings.

Use shielded cable to connect the amplifier to the ALC and relay connections on the TS-520S REMOTE octal socket.

73
Mike W5RKL
www.w5rkl.com

On 9/26/2014 11:31 PM, kj4fgi@... [TS-520_820_530_830] wrote:

Question, I haven't seen a cable for sale for keying an amp.

How would I know how to excite an SB-200, and do I have to use the ALC?

My TS-440s did not need it but the 520s is my first Tube and I'm not sure

what to do.

Thanks ahead of time.

Eddie- kj4fgi

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<http://www.avast.com/> protection is active.

49776. RE: [TS-520_820_530_830] TS-520s and Heathkit SB-200

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-27 15:59:45 UTC
From: Brad Allen
Topic: 49773 Message: 49776

1. When you use an external HF amplifier with a commercial transceiver, you are essentially adding and additional stage of RF amplification AFTER the transceiver's internal Transmit/Receive (T/R) relay.

2. It is essential that these 2 devices operate in concert or synchronization or damage to one or both devices can occur.

3. Your Kenwood TS-520 is your operator interface, it MUST control the actions of both.
The TS-520 has the SWITCH contacts to operate the amplifier remotely (think of this as an ordinary light switch). these contacts have a voltage and current rating
The SB-200 has the (~ 110 V) voltage -- that when closed operates the amplifier.

The SB-200 was designed in the tube era when switching this voltage was not uncommon.
[I]However, with the appearance of solid-state design in the 1980s -- the radios became smaller. So, the voltage and current rating of many of the internal relays (or solid-state switches) dropped to lower voltage ratings.

4. I am an advocate of either installing the Soft Key modification inside the SB-200, so that it can work with ALL transceivers (tube and solid-state) OR an external keying interface (relay or transistor switch). Why address a problem multiple times?? -- just address or modify the SB-200 once to be all-purpose.

Copy and paste of some very good info. Note the voltage of the SB-200 keying circuit. Brad KB2CHY

From: TS-520_820_530_830@yahoogroups.com
[mailto:TS-520_820_530_830@yahoogroups.com]
Sent: Saturday, September 27, 2014 11:19 AM
To: TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830] TS-520s and Heathkit SB-200

Eddie,

Did you read the TS-520 manual, pages 15 and 16? The top left corner of page 16 shows the "REMOTE" 8 pin octal socket pin outs.

You did not provide the make and model of amplifier you will be using.

The TS-520S can be used with most amplifiers without an relay interface.

For best performance you should use the ALC connection.

The TS-520S 8 pin octal socket, pin 5, is the Normally Open relay connection with ground on pins 1 or 4. Pin 5 shorts the amplifier's center terminal on the amplifier's RELAY socket to ground (pins 1 or 4) when the 520 transmitter is keyed, activating the amplifier.

The TS-520S 8 pin octal socket, pin 6, is the ALC connection with ground on pins 1 or 4. The amplifier's ALC connection is made to pin 6 with ground on pins 1 or 4.

Most modern amplifiers use 12VDC 80 to 100ma switching relays. The TS-520S can easily handle that voltage and current ratings.

Use shielded cable to connect the amplifier to the ALC and relay connections on the TS-520S REMOTE octal socket.

73
Mike W5RKL
www.w5rkl.com

On 9/26/2014 11:31 PM, kj4fgi@... [TS-520_820_530_830] wrote:

Question, I haven't seen a cable for sale for keying an amp.

How would I know how to excite an SB-200, and do I have to use the ALC?

My TS-440s did not need it but the 520s is my first Tube and I'm not sure

what to do.

Thanks ahead of time.

Eddie- kj4fgi

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49777. Re: [TS-520_820_530_830] TS-520s and Heathkit SB-200

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-27 16:26:23 UTC
From: Ed
Topic: 49773 Message: 49777

Thanks Brad,
I do have a soft key relay that I used with my ts-440, I purchased the cable and relay assembly from k4avu, it was not interfaced to use an ALC. I used the carrier/mic. controls on the 440. I'll see about getting an 8 pin octal socket, if not I'll hard wire it into the 550s and I'll use the relay interface. Thanks, I guess I'll use the ALC on the 520s also.

Brad, thanks for taking the time replying, much appreciated.

Eddie - kj4fgi

From: "'Brad Allen' ballen@frontiernet.net [TS-520_820_530_830]"
To: TS-520_820_530_830@yahoogroups.com
Sent: Saturday, September 27, 2014 11:59 AM
Subject: RE: [TS-520_820_530_830] TS-520s and Heathkit SB-200

When you use an external HF amplifier with a commercial transceiver, you are essentially adding and additional stage of RF amplification AFTER the transceiver's internal Transmit/Receive (T/R) relay.

2. It is essential that these 2 devices operate in concert or synchronization or damage to one or both devices can occur.

3. Your Kenwood TS-520 is your operator interface, it MUST control the actions of both.
The TS-520 has the SWITCH contacts to operate the amplifier remotely (think of this as an ordinary light switch). these contacts have a voltage and current rating
The SB-200 has the (~ 110 V) voltage -- that when closed operates the amplifier.

The SB-200 was designed in the tube era when switching this voltage was not uncommon.
[I]However, with the appearance of solid-state design in the 1980s -- the radios became smaller. So, the voltage and current rating of many of the internal relays (or solid-state switches) dropped to lower voltage ratings.

4. I am an advocate of either installing the Soft Key modification inside the SB-200, so that it can work with ALL transceivers (tube and solid-state) OR an external keying interface (relay or transistor switch). Why address a problem multiple times?? -- just address or modify the SB-200 once to be all-purpose.
Copy and paste of some very good info. Note the voltage of the SB-200 keying circuit. Brad KB2CHY

this msg edited as it contained already posted material. 73 Joe wb7uqu

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49778. Re: [TS-520_820_530_830] Heathkit HD-1410 and 520s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-27 19:36:58 UTC
From: John Davidson
Topic: 49768 Message: 49778

The TS440 and newer rigs use a low positive voltage and the older tube and Hybrid rigs, like the TS520 use a higher negative voltage like tho older all tube grid block keying. If your keyer has solid state switching as an output it will not key the 520, you need to make an interface to reverse the keyed polarity , usually one transistor with a high enough breakdown voltage, will do it,.

My radio is Ham Radio...CW is Real Radio
73, John...K8JD

On Saturday, September 27, 2014 1:17 AM, "Bill Houghton rdrbill@pacbell.net [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Eddie,

You're welcome. Glad to know that the problem is solved.

73,

Bill, WA6NEQ

On Fri, 9/26/14, Ed kj4fgi@... [TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com> wrote:

Subject: Re: [TS-520_820_530_830] Heathkit HD-1410 and 520s
To: TS-520_820_530_830@yahoogroups.com
Date: Friday, September 26, 2014, 8:08 PM

Hi Bill Thanks, reading your post I read
"it might be a
negative voltage" my TS-440 must have been positive so
what I did was just reverse the wires on the plug and it
works fine now. Thanks to your post a problem has been
solved
Thanks
Bill God
Bless
Eddie - kj4fgi
this post edited as it contained
already posted material. 73 Joe wb7uqu

49779. Re: [TS-520_820_530_830] TS-520s and Heathkit SB-200

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-27 20:07:18 UTC
From: Mike W5RKL
Topic: 49773 Message: 49779

Eddie,

You said your TS-440 didn't need the ALC connection. I don't know who told you and/or why you didn't need the ALC connection between your TS-440 but they were wrong. You should always use the ALC connection between your exciter (TS-520 or TS-440) and your linear amplifier! I recommend you download and read the pdf file on my website that discusses basic amplifier concepts:

www.w5rkl.com

When the home page comes up, click on Manuals, Docs, and Mods link at the top of the page. Once that page comes up scroll down to the bottom of the page and click on the Basic HF Amplifier Concept by VA7OJ pdf file, the file will download to your computer and should automatically come up in Adobe file reader.

If your amplifier is the SB-200 then the relay voltage is rather high, approximately -100VDC. If you have added the "soft key" circuit to your SB-200 then that high voltage is reduced down to a very low DC voltage.

The TS-520 also produces ALC during sideband transmissions. ALC is used to control the gain of the sideband transmitter to maintain linearity and to keep from over driving the amplifier. I read quite often where hams say, "I don't need the ALC connection, I keep the power output low." Well that's fine "IF" the person always pays attention but quite often most operators do not pay attention and end up over driving their amplifiers causing splatter and in some amplifiers, blowing the tubes or tripping the over drive circuit in the amplifier.

73
Mike W5RKL
www.w5rkl.com

On 9/27/2014 11:26 AM, Ed kj4fgi@... [TS-520_820_530_830] wrote:
> Thanks Brad,
> I do have a soft key relay that I used with my ts-440, I
> purchased the cable and relay assembly from k4avu, it was not
> interfaced to use an ALC. I used the carrier/mic. controls on the 440.
> I'll see about getting an 8 pin octal socket, if not I'll hard wire it
> into the 550s and I'll use the relay interface. Thanks, I guess I'll
> use the ALC on the 520s also.
>
> Brad, thanks for taking the time replying, much appreciated.
>
> Eddie - kj4fgi
>

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http://www.avast.com

49780. Re: [TS-520_820_530_830] Heathkit HD-1410 and 520s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-27 20:20:52 UTC
From: Mike W5RKL
Topic: 49768 Message: 49780

John K8JD,

You said

"If your keyer has solid state switching as an output it will not key the 520....."

That's not true I'm sorry to say.

The TS-520 CW keying voltage is -65VDC grid block keying voltage and the HD-1410 and any other solid state keyer that can handle that level of DC voltage will key the TS-520.

The Heathkit HD-1410 keyer is designed to key both positive AND negative keying voltages. The HD-1410 will even key a high voltage cathode keying circuit such as the Heathkit DX-40 which is what I use my HD1410 keyer for.

IF the HD-1410 keyer, when connected to the TS-520's CW socket on the rear panel, results in the 520 keyed constantly in CW mode then the negative keying transistor(s) is/are bad, most likely shorted internally. A quick fix, until the bad HD1410 negative keying transistor is replaced, is to "reverse" the wire connections at the 1/4" mono CW key plug that's plugged into the rear panel CW socket. The HD-1410 keyer should now key the 520 without any problem. Once the negative keying transistors are fixed, swap the 1/4" plug wires back and the HD-1410 keyer should key the 520's negative grid block keying just fine.

73
Mike W5RKL
www.w5rkl.com

On 9/27/2014 2:36 PM, John Davidson k8jd@... [TS-520_820_530_830] wrote:
> The TS440 and newer rigs use a low positive voltage and the older tube
> and Hybrid rigs, like the TS520 use a higher negative voltage like tho
> older all tube grid block keying. If your keyer has solid state
> switching as an output it will not key the 520, you need to make an
> interface to reverse the keyed polarity , usually one transistor with
> a high enough breakdown voltage, will do it,.
> My radio is Ham Radio...CW is Real Radio
> 73, John...K8JD
>
>
> On Saturday, September 27, 2014 1:17 AM, "Bill Houghton
> rdrbill@... [TS-520_820_530_830]"
> <TS-520_820_530_830@yahoogroups.com> wrote:
>

>
> Eddie,
>
> You're welcome. Glad to know that the problem is solved.
>
> 73,
>
> Bill, WA6NEQ
>
> ---
> On Fri, 9/26/14, Ed kj4fgi@... [TS-520_820_530_830]
> <TS-520_820_530_830@yahoogroups.com> wrote:
>
> Subject: Re: [TS-520_820_530_830] Heathkit HD-1410 and 520s
> To: TS-520_820_530_830@yahoogroups.com
> Date: Friday, September 26, 2014, 8:08 PM
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> Bless
> Eddie - kj4fgi
> this post edited as it contained
> already posted material. 73 Joe wb7uqu
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49781. Re: [TS-520_820_530_830] TS-520s and Heathkit SB-200

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-27 19:44:08 UTC
From: 22hornet@...
Topic: 49773 Message: 49781

You can go to Harbach Electronics and install the SK-201 Soft-Key Keying interface in you SB-200 so you can key it with any rig you might have. $27.50
Installed it on My SB-200 works great.

Ken de W7ITC

49782. Re: [TS-520_820_530_830] TS-520s and Heathkit SB-200

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-27 22:26:28 UTC
From: Ed
Topic: 49773 Message: 49782

Got it , I'm going to read it, Thanks Mike

Eddie - kj4fgi

From: "Mike W5RKL w5rkl@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com>
To: TS-520_820_530_830@yahoogroups.com
Sent: Saturday, September 27, 2014 4:07 PM
Subject: Re: [TS-520_820_530_830] TS-520s and Heathkit SB-200

Eddie,

You said your TS-440 didn't need the ALC connection. I don't know who told you and/or why you didn't need the ALC connection between your TS-440 but they were wrong. You should always use the ALC connection between your exciter (TS-520 or TS-440) and your linear amplifier! I recommend you download and read the pdf file on my website that discusses basic amplifier concepts:

www.w5rkl.com

When the home page comes up, click on Manuals, Docs, and Mods link at the top of the page. Once that page comes up scroll down to the bottom of the page and click on the Basic HF Amplifier Concept by VA7OJ pdf file, the file will download to your computer and should automatically come up in Adobe file reader.

If your amplifier is the SB-200 then the relay voltage is rather high, approximately -100VDC. If you have added the "soft key" circuit to your SB-200 then that high voltage is reduced down to a very low DC voltage.

The TS-520 also produces ALC during sideband transmissions. ALC is used to control the gain of the sideband transmitter to maintain linearity and to keep from over driving the amplifier. I read quite often where hams say, "I don't need the ALC connection, I keep the power output low." Well that's fine "IF" the person always pays attention but quite often most operators do not pay attention and end up over driving their amplifiers causing splatter and in some amplifiers, blowing the tubes or tripping the over drive circuit in the amplifier.

73
Mike W5RKL

www.w5rkl.com

On 9/27/2014 11:26 AM, Ed kj4fgi@... [TS-520_820_530_830] wrote:

>Thanks Brad,
> I do have a soft key relay that I used with my ts-440, I purchased the cable and relay assembly from k4avu, it was not interfaced to use an ALC. I used the carrier/mic. controls on the 440. I'll see about getting an 8 pin octal socket, if not I'll hard wire it into the 550s and I'll use the relay interface. Thanks, I guess I'll use the ALC on the 520s also.
>
>
>Brad, thanks for taking the time replying, much appreciated.
>
>
> Eddie - kj4fgi
>

This email is free from viruses and malware because avast! Antivirus protection is active.

49783. Re: [TS-520_820_530_830] Heathkit HD-1410 and 520s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-27 22:22:44 UTC
From: Ed
Topic: 49768 Message: 49783

Thanks John, I used the 1410 on my ts-440 and it worked fine, I plugged it into the 520s and it keyed the rig. I reversed the wires in the 1/4 plug and the keyer worked fine.

thanks Eddie kj4fgi

Portions of this message were deleted, they were duplicates of previous messages.
Mike W5RKL
Yahoo Kenwood TS_520_820_530_830 Group Moderator

49784. Re: Repair Assistance request

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-27 23:06:13 UTC
From: wallydoc@...
Topic: 49718 Message: 49784

Dan: I repaired a 820 in the past.
With what you said, I would check the voltages on all the boards. You are correct to start there.
Check the antenna relay and make sure signal is getting thru it. Sometimes it needs a cleaning. Spares are available. I have even seen the antenna connector have a short that I could not see. This resulted in a very quiet radio that worked very well with the jack replaced. It did not test shorted with an ohmmeter, it was an RF short.
Since you are working on receive, don't worry about the transmit volts till you get ready to turn that part on, then measure volts before doing anything else. Could be bad bias caused holes in tubes. You can service radio without tubes but insulate the tube plate cap connection so you dont arc or zap yourself.
The counter board is crappy. Thru hole connections can be intermittent problems and very frustrating. Best solved by putting silver wire thru the thru hole connections and soldering on both sides. That can wait.
I use real silver plated jewelry wire bought at Hobby Lobby(always print a 20% coupon from their website), solders like a dream.
Wally KC9INK

49785. Re: [TS-520_820_530_830] Heathkit HD-1410 and 520s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-28 01:19:52 UTC
From: John Davidson
Topic: 49768 Message: 49785

I wasn't sure if the later heathkit's keyers were only aimed at the new solid state rigs or had both polarity outputs available. Should have done some research.
My 70's K.E. keyer had just a single output connector and was for Grid block keying,,Same with my vintage W9TO from Hallicrafters.

My radio is Ham Radio...CW is Real Radio
73, John...K8JD

On Saturday, September 27, 2014 4:21 PM, "Mike W5RKL w5rkl@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

John K8JD,

You said

"If your keyer has solid state switching as an output it will not key the 520....."

That's not true I'm sorry to say.

The TS-520 CW keying voltage is -65VDC grid block keying voltage and the HD-1410 and any other solid state keyer that can handle that level of DC voltage will key the TS-520.

The Heathkit HD-1410 keyer is designed to key both positive AND negative keying voltages. The HD-1410 will even key a high voltage cathode keying circuit such as the Heathkit DX-40 which is what I use my HD1410 keyer for.

IF the HD-1410 keyer, when connected to the TS-520's CW socket on the rear panel, results in the 520 keyed constantly in CW mode then the negative keying transistor(s) is/are bad, most likely shorted internally. A quick fix, until the bad HD1410 negative keying transistor is replaced, is to "reverse" the wire connections at the 1/4" mono CW key plug that's plugged into the rear panel CW socket. The HD-1410 keyer should now key the 520 without any problem. Once the negative keying transistors are fixed, swap the 1/4" plug wires back and the HD-1410 keyer should key the 520's negative grid block keying just fine.

73
Mike W5RKL
www.w5rkl.com

On 9/27/2014 2:36 PM, John Davidson k8jd@yahoo.com [TS-520_820_530_830] wrote:

>The TS440 and newer rigs use a low positive voltage and the older tube and Hybrid rigs, like the TS520 use a higher negative voltage like tho older all tube grid block keying. If

your keyer has solid state switching as an output it will not key the 520, you need to make an interface to reverse the keyed polarity , usually one transistor with a high enough breakdown voltage, will do it,.
>
>My radio is Ham Radio...CW is Real Radio
>73, John...K8JD
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>
>
>On Saturday, September 27, 2014 1:17 AM, "Bill Houghton rdrbill@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:
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>You're welcome. Glad to know that the
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49786. Re: [TS-520_820_530_830] Heathkit HD-1410 and 520s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-28 01:27:02 UTC
From: John Davidson
Topic: 49768 Message: 49786

t I Now that I rethink the old Hallicrafters "TO" keyer, it had a special fast acting relay so you could key anything with it. Just contacts closing, going to the output line.

My radio is Ham Radio...CW is Real Radio
73, John...K8JD

On Saturday, September 27, 2014 9:19 PM, "John Davidson k8jd@yahoo.com [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

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On Saturday, September 27, 2014 4:21 PM, "Mike W5RKL w5rkl@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

John K8JD,

You said

"If your keyer has solid state switching as an output it will not key the 520....."

That's not true I'm sorry to say.

The TS-520 CW keying voltage is -65VDC grid block keying voltage and the HD-1410 and any other solid state keyer that can handle that level of DC voltage will key the TS-520.

The Heathkit HD-1410 keyer is designed to key both positive AND negative keying voltages. The HD-1410 will even key a high voltage cathode keying circuit such as the Heathkit DX-40 which is what I use my HD1410 keyer for.

IF the HD-1410 keyer, when connected to the TS-520's CW socket on the rear panel, results in the 520 keyed constantly in CW mode then the negative keying transistor(s) is/are bad, most likely shorted internally. A quick fix, until the bad HD1410 negative keying transistor is replaced, is to "reverse" the wire connections at the 1/4" mono CW key plug that's plugged into the rear panel CW socket. The HD-1410 keyer should now key the 520 without any problem. Once the negative keying transistors are fixed, swap the 1/4" plug wires back and the HD-1410 keyer should key the 520's negative grid block keying just fine.

73
Mike W5RKL
www.w5rkl.com

On 9/27/2014 2:36 PM, John Davidson k8jd@... [TS-520_820_530_830] wrote:

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49787. Re: [TS-520_820_530_830] Heathkit HD-1410 and 520s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-28 03:56:50 UTC
From: W5RKL
Topic: 49768 Message: 49787

Hi John,

The Hallicrafters HA-1 TO keyer is the same as the Eico 717 vacuum tube keyer. Both keyer outputs use a fast acting "Reed Relay" that keys the the circuit. I own an Eico 717, it's a great keyer, but age can take it's toll on the components such as resistors and some caps plus the tubes that can cause sporadic errors now and then. These keyers are not iambic keyer BUT that doesn't mean the operator cannot connect a single paddle or Iambic paddle to either keyers. Either paddle you just don't have squeeze Iambic keying, only finger/thumb action which some refer to as "slap" keying, the thumb and fingers move the paddle(s) left and right to make the dits and dahs instead of squeezing the Iambic paddles to make the dits and dahs.

The HD-1410 will work with negative grid block CW keying which is what all Kenwood hybrids, Heathkit HW-100/101 and SB-100/101/102, the HX-1681 hybrid transmitter, the HX-20 SSB/CW xmitr, and the HX-10 Marauder xmtr. It will also work with many other vacuum tube and hybrid transceivers such as Swan, Collins, Drake, and many Cathode keying xmiters such as Knight T-60, T-150, Heathkit DX-20, DX-35, DX-40, DX-60, and others. The only problem I have with the HD-1410 keyer is the side tone adjustment, the tone range is limited.

The Heathkit HD-10 keyer will key any negative grid block CW transmitter that has a negative voltage less than -102VDC. This means it will work with the above listed transmitters/transceivers without any modification. The HD-10 will not work with cathode keying, the voltage is too high plus it cannot be used with a Swan 350 or 400 transceiver, the CW keying voltage is too high.

The MFJ-407B and MFJ-407D are also good all solid state keyers. I have both keyers and use the 407b with my Drake transmitters and the 407d with my Heathkit SB-100 and HW-101. I have used the 407D with a Kenwood TS-820 a few years back before I sold it, the 407d keyed the 820 just fine. I had to set the internal jumpers so the keyer worked with Grid block keying but other than that, it works great.

73
Mike W5RKL
www.w5rkl.com

On 9/27/2014 8:27 PM, John Davidson k8jd@... [TS-520_820_530_830] wrote:
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> internally. A quick fix, until the bad HD1410 negative keying
> transistor is replaced, is to "reverse" the wire connections at the
> 1/4" mono CW key plug that's plugged into the rear panel CW socket.
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> negative keying transistors are fixed, swap the 1/4" plug wires back
> and the HD-1410 keyer should key the 520's negative grid block keying
> just fine.

>
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> www.w5rkl.com <http://www.w5rkl.com/>
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49788. Hybrid Net Update (September 28, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-28 19:05:34 UTC
From: Mark Gilger
Topic: 49788 Message: 49788

>
>
>Net Info:
>Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
>Sunday: 14.316 @ 1800 UTC following the ICOM net
>
>Web Site:
><http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm
>Â
>The net started it's existence on November 1st,
>2012. The yearly check-in totals are posted at
>the bottom of this message. It showed we had a
>10% increase in our Saturday check-ins and an 8%
>on Sunday as compared to the 2012 check-ins.
>
>The Saturday's net was run by Jimmy, WB2KNR.
>There were 18 stations checking in under good
>band conditions. There were 3 new first time check-ins: W3BT, K2IPX, KC3BW.
>
>We had the following number of radios checking in.
>
>4 running TS-520(x)
>3 running TS-530(x)
>2 running TS-820(x)
>2 running TS-830S
>0 running TS-511
>1 running 599 twins
>
>The Sunday net was run by me, WB0IQK. There were
>only 4 stations checking in under good band
>conditions. We had the following number of radios checking in.
>
>1 running TS-520(x)
>0 running TS-530(x)
>0 running TS-820(x)
>2 running TS-830S
>0 running TS-511
>0 running 599 twins
>
>The rest were running non Kenwood hybrid equipment.
>
>I was running my TS-820/R820 & Drake L4B amplifier.
>

>We have been having several people checking in
>regularly with their TS-430, TS-440, and
>TS-940s, which of course is not a hybrid,
>although over 30+ years old. Everyone is welcome
>as long as they have an interest in the older equipment.
>
>If anyone would be interested in filling in as a
>net control station, please send me an email.
>Currently it's just myself, WB2KNR and WB0SGA. I
>would like to get several more. If we do, we can
>alternate so everyone might be on a 3-4 week
>rotation. It's a lot of fun and a good way to
>make sure you station is optimized.
>
>For anyone that has not heard, we have a new web
>site that WB4HFN is hosting. He currently has a
>very nice site for Drake, Collins and Heathkit
>and now Kenwood Hybrids. Good quality manuals
>plus sale flyers and brochures will be found
>here, along with user supplied information for all Hybrids.
>
>His URL is:
><http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHome
Page.htm
>
>To date, we have had the following check-in:
>
>Nov. 2011 ☐ Oct. 2012Â Saturday total 754
>check-ins, Sunday total 563 check-ins
>Nov. 2012 - Oct. 2013 Saturdays total 828
>check-ins, Sunday total 609 check-ins
>November 2013, Saturday net total = 94, Sunday total = 85
>December 2013, Saturday net total = 87, Sunday total = 103
>January 2014, Saturday net total = 71, Sunday total = 82
>February 2014, Saturday net total = 80, Sunday total = 85
>March 2014, Saturday net total = 82, Sunday total = 73
>April 2014, Saturday net total = 64, Sunday total =43
>May 2014, Saturday net total = 66, Sunday total = 35
>June 2014, Saturday net total = 43, Sunday total = 59
>July 2014, Saturday net total = 24, Sunday total = 46
>August 2014, Saturday net total = 62, Sunday total = 53
>September 2014, Saturday's net total = 49, Sunday's total = 27 (Month to date)
>
>Net Info:
>Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
>Sunday: 14.316 @ 1800 UTC following the ICOM net
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>Web Site:
><http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHome

Page.htm
>
>73's,
>Mark, WB0IQK

49789. TS-530s Mic socket

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-30 17:55:56 UTC
From: john
Topic: 49789 Message: 49789

Hi

Would anyone be kind enough to supply me with the wire colours and corresponding pins for the mic socket on a TS-530s?

I think my mic socket has been re-wired to take another mic(non Kenwood)

Thanks

John

M6JPE

49790. Re: [TS-520_820_530_830] TS-530s Mic socket

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-30 19:54:57 UTC
From: Louis Wilen
Topic: 49789 Message: 49790

Check out this document for the answer:

http://www.qsl.net/g4wpw/mc50.pdf

Louis
W3VVV

From: mailto:TS-520_820_530_830@yahoogroups.com
Sent: Tuesday, September 30, 2014 1:55 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: [TS-520_820_530_830] TS-530s Mic socket

Hi

Would anyone be kind enough to supply me with the wire colours and corresponding pins for the mic socket on a TS-530s?

I think my mic socket has been re-wired to take another mic(non Kenwood)

Thanks

John

M6JPE

49791. Re: [TS-520_820_530_830] TS-530s Mic socket

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-30 19:57:41 UTC
From: Joseph Stiles
Topic: 49789 Message: 49791

John,

Why do you think that the socket was rewired? Seems to me that it would be much easier to rewire the mic plug itself...but anyway..

Looking at the socket from the BACK SIDE:

Pin # 1 = White
Pin # 4 = Black....the above white and this black split off from a RED

Pin # 2 = White/Orange
Pin # 3 = small silver wire going to ground..more than likely to a lug on the "phones" jack right above.

Pins # 3 & # 4 have a very small .01 capacitor connected across them.

Connect all wires and grounds as shown or you'll get a rather nice hum in you signal.

73 Joe
WB7UQU

On Tuesday, September 30, 2014 10:55 AM, "'john' john@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Hi
>Would anyone be kind enough to supply me with the wire colours and corresponding pins for the mic socket on a TS-530s?
>I think my mic socket has been re-wired to take another mic(non Kenwood)
>
>Thanks
>John
>M6JPE
>
>
>

49792. Re: [TS-520_820_530_830] TS-530s Mic socket

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-30 19:56:52 UTC
From: Louis Wilen
Topic: 49789 Message: 49792

Okay, re-reading – you want the color and pin numbers in the rig itself. Sorry, I don't have that at hand. If no one else has it, I'll try to dig it up.

Louis
W3VVV

From: mailto:TS-520_820_530_830@yahoogroups.com
Sent: Tuesday, September 30, 2014 3:54 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830] TS-530s Mic socket

Check out this document for the answer:

http://www.qsl.net/g4wpw/mc50.pdf

Louis
W3VVV

From: mailto:TS-520_820_530_830@yahoogroups.com
Sent: Tuesday, September 30, 2014 1:55 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: [TS-520_820_530_830] TS-530s Mic socket

Hi

Would anyone be kind enough to supply me with the wire colours and corresponding pins for the mic socket on a TS-530s?

I think my mic socket has been re-wired to take another mic(non Kenwood)

Thanks

John

M6JPE

49793. drive tuning

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-30 21:37:06 UTC
From: srdente@...
Topic: 49793 Message: 49793

Hi everyone, This is the first problem I have had had with this rig since I got it about three years ago. I went to tune the drive on my 520s with the meter on ALC, tune mode, and SEND on, I get nothing on the meter, needle at 0. Set carrier control to max and still 0. I am not sure what I should check next. I am open to suggestions. Dennis

Please remember to include call sign(if any) per group policy when posting. 73 Joe wb7uqu

49794. Re: [TS-520_820_530_830] drive tuning

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-09-30 22:30:55 UTC
From: Joseph Stiles
Topic: 49793 Message: 49794

Dennis,

Is the rig receiving? If not check the 9 pin shorting plug on the rear for proper contact. Without this plug or other shorting method between pins 8 & 9 rig will not operate tx/rx.

SG switch on rear of rig on?

Are you getting any RF output when rig is not in "tune?"
Will it tune up in "CW?"

Is this problem on all bands?

It is possible that your driver tube, the 12BY7A has failed. They usually
go slowly...but ya never know

It is also quite possible that resistors 5 & 6...both 56k on the HV unit have failed or most likely gone very high in value. The two resistors decrease voltage to the final amplifier tubes during "tune mode" so as not to hit them with full voltage while being out of tune/resonance.
Lack of "ALC in Tune" is a very common problem that has plagued just about every KW hybrid at on time or another.

You can check the voltages by testing at the "TUN" or "210" post on the HV board...should be around 210VDC or so.

BE CAREFUL AS YOU WILL BE VERY CLOSE TO 800VDC...WHICH WILL MAKE YOU SK.

If you are not comfortable find someone who is. No sense ruining your day. Even a couple hundred will give you a real decent jolt..it can also make you and SK.

I suggest that you obtain, if not already, a good clean & clear service manual. Several sources: n6wk "dot " com , w5rkl "dot" com. There are a couple of others, but these just came to mind.

What testing equipment and skill/knowledge level do you have?

73 Joe
WB7UQU

On Tuesday, September 30, 2014 2:37 PM, "srdente@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Hi everyone, This is the first problem I have had had with this rig since I got it about three years ago. I went to tune the drive on my 520s with the meter on ALC, tune mode, and SEND on, I get nothing on the meter, needle at 0. Set carrier control to max and still 0. I

am not sure what I should check next. I am open to suggestions. Dennis
>
>
>Please remember to include call sign(if any) per group policy when posting. 73 Joe wb7uqu
>
>
>
>

49795. TS-530 800 hz. shift

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-01 10:54:10 UTC
From: mgbv8@...
Topic: 49795 Message: 49795

Hi everyone. Found another problem with the 530 I bought a couple months ago. Decided to try it on CW and when I go to CW it does not shift up 800 hz. If I try to listen to ARRL at 7.0475 I have to tune to 7.0467. But when I go to tune it shifts up but I still have to tune back to 7.0467 to receive the signal. Just using this frequency as an example. It does this on all bands. Thought someone might have seen this before. Thank Bill WR4G

49796. Re: [TS-520_820_530_830] drive tuning

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-01 11:57:20 UTC
From: srdente@...
Topic: 49793 Message: 49796

Thanks Joe. I have the necessary equipment to do the checks you listed. I have a tube tester to check the driver, I'll post my results when I get done. I did not have a schematic so I will acquire one today.Dennis

49797. Re: [TS-520_820_530_830] TS-530s Mic socket

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-01 09:28:24 UTC
From: John
Topic: 49789 Message: 49797

The reason being is there was a slip of paper with the radio that was hand drawn showng the pins used and when I tried a MC50 Mic it didnt work. Cheers John

Moderator's note:
Sections of the message have been removed.

73
Mike W5RKL
Yahoo Kenwood TS_520_820_530_830 Group Moderator

49798. VFO Power Connector

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-01 22:39:53 UTC
From: Nathan Johnson
Topic: 49798 Message: 49798

Hello All, Currently working on a TS-520S that has been butchered by previous owners. The power connector to the VFO(2 pins, 1 larger than the other) is missing, wires were soldered on. Does anyone know what this connector is called or where to get one?

Nathan
KK4REY
–
Sent from Mailbox

49799. Re: VFO Power Connector

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-02 12:28:10 UTC
From: w5rkl@...
Topic: 49798 Message: 49799

Nathan,

Have you asked Bob Mansker, KE5FTF, if he can help? Bob may be able to provide that plug. Drop him an e-mail:

ke5ftf at mail.com

73
Mike W5RKL
www.w5rkl.com http://www.w5rkl.com

49800. Wrong information

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-03 00:59:51 UTC
From: wagstw46@...
Topic: 49800 Message: 49800

TS-820 Owners:

I am trying to help a fellow off line with his TS-820S issues. He did a search under the Conversations Search Groups to see what the signal levels at the DG-1 Counter Mixer board should be. He found one of my old responses that describes the two necessary rf inputs. CCR is Carrier signal from the IF board and CVC is VCO signal from the PLL PD board.

In my response I stated that CVC is VCO level at approx 900mv rms. That is wrong.

The correct answer is it is VCO signal at approx 100mv rms level.

The question then was how does the 900mv VCO signal become a 100mv signal at the Counter Mixer board Molex connector. The VCO signal from the PD board is supplied to the Counter Mixer board thru a resistive voltage divider on the PD board using a 470 ohm and 150 ohm resistor. At the center tap of this divider the 900mv signal would be divided approx to 300 mv level. However, that signal is applied to the Counter Mixer board to the base of buffer amp Q4. In the path to the base of Q4 there is a 100 ohm shunt resistor. That resistor is effectively in parallel with the 150 ohm resistor on the PD board so the divider is a 7.8 to 1 divider and not a 3.1 to 1 divider. So the CVC level at the Counter Mixer board then becomes 900mv/7.83 = 114.9 mv or approx 115mv. Anything around 100mv is good.

Correct response should have been:
1. You adjust the CCR (carrier level) by first adjusting CA2 at Carrier Osc unit for 300mv at TP-5 on the IF board and then adjusting TC-1 trimmer cap on the IF board for a 100mv signal at TP-6 (see step 3-2-2).

2. If the VCO is functioning correctly you should have approximately 100mv at CVC on the Counter Mixer board. No adjustment normally required.

Sorry for the bum dope!

Terry K9TW

49801. Pots on TS-820 AVR Board

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-03 00:39:25 UTC
From: Nathan Johnson
Topic: 49801 Message: 49801

Hello All,The Pots on the AF-AVR board on an 820 I am repairing have had it. Kind of an odd part, only 2 pole, common and wiper, and on a pcb wafer, so narrow. I have 2 otherwise good boards that I would like to repair. Has anyone been down this road before, and have a recommended brand/series to use?

Nathan
KK4REY
–
Sent from Mailbox

49802. Re: [TS-520_820_530_830] Re: VFO Power Connector

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-03 00:07:51 UTC
From: Nathan Johnson
Topic: 49798 Message: 49802

Mike,
I emailed KE5FTF, thanks for the lead.

Nathan
KK4REY
—
Sent from Mailbox https://www.dropbox.com/mailbox

this msg edited as it contained already posted material. 73 Joe wb7uqu

49803. Re: [TS-520_820_530_830] Pots on TS-820 AVR Board

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-03 01:41:48 UTC
From: W5RKL
Topic: 49801 Message: 49803

Nathan,

Before you invest time, money, and components repairing the 2 boards you have, turn the AF AVR board that's in your 820, over, foil side facing you, and note the foil side number you see. It's not enough just to have the AF AVR board's component side number be the same, the foil side number must also be the same otherwise you could end up with a rebuilt board that will not work in your 820. I've been down this road before.

73
Mike W5RKL
www.w5rkl.com

On 10/2/2014 7:39 PM, 'Nathan Johnson' jdownj@...
[TS-520_820_530_830] wrote:
>
> Hello All,
>
> The Pots on the AF-AVR board on an 820 I am repairing have had it.
> Kind of an odd part, only 2 pole, common and wiper, and on a pcb
> wafer, so narrow. I have 2 otherwise good boards that I would like to
> repair. Has anyone been down this road before, and have a recommended
> brand/series to use?
>
> Nathan
> KK4REY
> –
> Sent from Mailbox <https://www.dropbox.com/mailbox>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

49804. Re: [TS-520_820_530_830] Pots on TS-820 AVR Board

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-03 01:40:42 UTC
From: Joseph Stiles
Topic: 49801 Message: 49804

Nathan,

Are you referring to VR-1 & VR-2? If so, you may try: Surplus Sales of Nebraska. I have found some odds-n-ends from them before. I have not had the pleasure of having to replace VR-1 & 2 as of yet.

It is a bit crowded on that board for sure!

73 Joe
WB7UQU

On Thursday, October 2, 2014 5:39 PM, "'Nathan Johnson' jdownj@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Hello All,
>The Pots on the AF-AVR board on an 820 I am repairing have had it. Kind of an odd part, only 2 pole, common and wiper, and on a pcb wafer, so narrow. I have 2 otherwise good boards that I would like to repair. Has anyone been down this road before, and have a recommended brand/series to use?
>
>
>Nathan
>KK4REY
>—
>Sent from Mailbox
>
>
>

49805. Re: [TS-520_820_530_830] Wrong information

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-03 01:42:13 UTC
From: Joseph Stiles
Topic: 49800 Message: 49805

Terry,

TNX for your updated info! Glad to see ur still around.

73 Joe
WB7UQU

On Thursday, October 2, 2014 5:59 PM, "wagstw46@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>TS-820 Owners:
>
>
>I am trying to help a fellow off line with his TS-820S issues. He did a search under the Conversations Search Groups to see what the signal levels at the DG-1 Counter Mixer board should be. He found one of my old responses that describes the two necessary rf inputs. CCR is Carrier signal from the IF board and CVC is VCO signal from the PLL PD board.
>
>
>In my response I stated that CVC is VCO level at approx 900mv rms. That is wrong.
>
>
>The correct answer is it is VCO signal at approx 100mv rms level.
>
>
>The question then was how does the 900mv VCO signal become a 100mv signal at the Counter Mixer board Molex connector. The VCO signal from the PD board is supplied to the Counter Mixer board thru a resistive voltage divider on the PD board using a 470 ohm and 150 ohm resistor. At the center tap of this divider the 900mv signal would be divided approx to 300 mv level. However, that signal is applied to the Counter Mixer board to the base of buffer amp Q4. In the path to the base of Q4 there is a 100 ohm shunt resistor. That resistor is effectively in parallel with the 150 ohm resistor on the PD board so the divider is a 7.8 to 1 divider and not a 3.1 to 1 divider. So the CVC level at the Counter Mixer board then becomes 900mv/7.83 = 114.9 mv or approx 115mv. Anything around 100mv is good.
>
>
>Correct response should have been:
>1. You adjust the CCR (carrier level) by first adjusting CA2 at Carrier Osc unit for 300mv at TP-5 on the IF board and then adjusting TC-1 trimmer cap on the IF board for a 100mv signal at TP-6 (see step 3-2-2).
>
>
>2. If the VCO is functioning correctly you should have approximately 100mv at CVC on the

Counter Mixer board. No adjustment normally required.
>
>
>Sorry for the bum dope!
>
>
>Terry K9TW
>
>
>

49806. Re: [TS-520_820_530_830] Pots on TS-820 AVR Board

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-03 01:55:25 UTC
From: Nathan Johnson
Topic: 49801 Message: 49806

Mike, Good call on checking the numbers. Of the 3 I have(1 in the radio, 2 spares), one of the spares matches, the other does not. Glad I didn't rebuild the wrong one!

Joe,
Yes, VR1/VR2. This radio is long past the point of "restoration" or historical accuracy, so I am toying with the idea of using a piece of perfboard and pigtailing a few modern trimmers, because I'm not finding anything that looks like it will fit in that location.

Nathan
KK4REY
—

Moderator's note:
Portion of the message were deleted to keep response lengths shorter.

73
Mike W5RKL
Yahoo Kenwood TS_520_820_530_830 Group Moderator

49807. Re: [TS-520_820_530_830] drive tuning

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-03 12:46:40 UTC
From: srdente@...
Topic: 49793 Message: 49807

I am getting about 260vdc on test point 210. Does that seem high?
Dennis

49808. Re: [TS-520_820_530_830] drive tuning

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-03 13:26:42 UTC
From: Mike W5RKL
Topic: 49793 Message: 49808

Dennis,

No, +260VDC is NOT too high at the Rectifier Unit's 210A terminal. The 210A +260VDC is the "No load standby/receive" voltage level you would expect to see at the RF Unit's 210A and Final Unit "SG" terminals with the 520 in standby/receive.

When the 520 is placed in transmit, current will flow in the driver tube and both final tubes. This results in a voltage drop to occur in the tube's screen circuit causing a "voltage drop" to occur in the tube's screen circuit. If you measure the tube's screen voltage you will notice it has "decreased" some what. As the current flow in the screen circuit varies, so does the voltage drop. Higher screen current results in a higher voltage drop to occur. The reverse applies, lower screen current result in a lower voltage drop in the tube's screen circuit.

This is how vacuum tubes work and if this sound strange to you then I recommend you spend time studying vacuum tube theory in the ARRL handbook, mid 60s and earlier edition are best.

73
Mike W5RKL
www.w5rkl.com

On 10/3/2014 7:46 AM, srdente@... [TS-520_820_530_830] wrote:
> I am getting about 260vdc on test point 210. Does that seem high?
> Dennis
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

49809. Re: [TS-520_820_530_830] drive tuning

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-04 23:40:25 UTC
From: srdente@...
Topic: 49793 Message: 49809

thanks for the reply Mike. I am trying to figure out why there is no agc in tune mode. My original post has the specifics.Any ideas?

49810. Re: [TS-520_820_530_830] drive tuning

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-05 03:06:40 UTC
From: W5RKL
Topic: 49793 Message: 49810

Dennis,

If you do not see any ALC in TUNE mode but you see 60ma idling current, try tuning the 520 up in CW mode. If you can tune the 520 up in CW mode but not in TUNE mode then R5 and/or R6, both 56K 1/2W resistors on the HV Unit board are out of tolerance. If you find either resistor out of tolerance, replace both resistors with new metal film 56K 1/2 watt resistors.

Here's what happens when the MODE switch is set to TUNE and the transmitter keyed.

R5 and R6 form a resistive voltage divider. The Rectifier Unit's 210A voltage, we'll say it's +260VDC, is applied to the "210A" terminal of the HV Unit board. The current flowing through R5 and R6 with +260VDC applied to the 210A terminal is approximately 2.32ma

I = E / R

260 / 112000 = .00232

This results in a voltage drop across R6 of approximately 129.93VDC

E = I x R

.00232 x 56000 = 129.92

The +129.92VDC voltage drop across R6 results in a positive DC voltage at the junction of R5 and R6 and at the HV Unit's "TUNE" terminal of approximately +130.07VDC

260 - 129.92 = 130.08)

which is the screen voltage applied to the 6146 screens (260 - 129.92 = 130.08) in TUNE mode.

This reduction in screen voltage causes a reduction in current flow in the 6146s in TUNE mode, hence the reduction in DC power input in the final amplifier in TUNE mode. Switching the MODE switch to USB, LSB, or CW, returns the normal +260VDC to the final tube screens.

Also, Dennis, you need to add the required message signature to ALL of your messages you post on this group. Please pay attention to your messages and add the message signature. IF you do not know what the proper message signature is, read the 2 message sent to you when your membership was approved!!

73
Mike W5RKL
www.w5rkl.com

On 10/4/2014 6:40 PM, srdente@... [TS-520_820_530_830] wrote:
>
> thanks for the reply Mike. I am trying to figure out why there is no
> agc in tune mode. My original post has the specifics.Any ideas?
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

49811. Re: drive tuning

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-05 14:32:55 UTC
From: T. Scott Griffin
Topic: 49811 Message: 49811

I would like to complement Mike, W5RKL, on his detailed responses to questions that members post. Mike always explains the theory, with calculations if necessary, behind his explanation. As a result I have learned a lot about my own hybrid (a TS-530SP) just by reading his answers to a member’s questions. Thank you Mike!

73s, Scott

N6CIC

Sent from Windows Mail

49812. Kenwood Hybrid Net updated (October 5, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-05 19:14:23 UTC
From: Mark Gilger
Topic: 49812 Message: 49812

Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm
The net started it's existence on November 1st,
2012. The yearly check-in totals are posted at
the bottom of this message. It showed we had a
10% increase in our Saturday check-ins and an 8%
on Sunday as compared to the 2012 check-ins.

The Saturday's net was run by me, WB0IQK. There
were 18 stations checking in under good band
conditions. There were 2 new first time check-ins: KV4ZA, AA3OI.

We had the following number of radios checking in.

2 running TS-520(x)
2 running TS-530(x)
2 running TS-820(x)
5 running TS-830S
0 running TS-511
0 running 599 twins

The Sunday net was run by me, WB0IQK. There were
17 stations checking in under fair band
conditions. We had the following number of radios
checking in. There were 4 new first time
check-ins: KC7RUN, W5TMP, KG6IRG, and N7XGH

1 running TS-520(x)
1 running TS-530(x)
1 running TS-820(x)
4 running TS-830S
0 running TS-511
0 running 599 twins

The rest were running non Kenwood hybrid equipment.

I was running my TS-940S & Drake L4B amplifier.

We have been having several people checking in
regularly with their TS-430, TS-440, and
TS-940□s, which of course is not a hybrid,
although over 30+ years old. Everyone is welcome

as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a net control station, please send me an email. Currently it's just myself, WB2KNR and WB0SGA. I would like to get several more. If we do, we can alternate so everyone might be on a 3-4 week rotation. It's a lot of fun and a good way to make sure you station is optimized.

For anyone that has not heard, we have a new web site that WB4HFN is hosting. He currently has a very nice site for Drake, Collins and Heathkit and now Kenwood Hybrids. Good quality manuals plus sale flyers and brochures will be found here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 ☐ Oct. 2012 Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins

November 2013, Saturday☐s net total = 94, Sunday☐s total = 85
December 2013, Saturday☐s net total = 87, Sunday☐s total = 103
January 2014, Saturday☐s net total = 71, Sunday☐s total = 82
February 2014, Saturday☐s net total = 80, Sunday☐s total = 85
March 2014, Saturday☐s net total = 82, Sunday☐s total = 73
April 2014, Saturday☐s net total = 64, Sunday☐s total =43
May 2014, Saturday☐s net total = 66, Sunday☐s total = 35
June 2014, Saturday☐s net total = 43, Sunday☐s total = 59
July 2014, Saturday☐s net total = 24, Sunday☐s total = 46
August 2014, Saturday☐s net total = 62, Sunday☐s total = 53
September 2014, Saturday's net total = 49, Sunday's total = 27
October 2014, Saturday's net total = 18, Sunday's total = 17 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

49813. S-Meter deflects Maximum with No audio output when WWV is selected: TS 520s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-05 19:54:34 UTC
From: Henry Stephan
Topic: 49813 Message: 49813

Hello Mike and the Group

Firstly Mike W5RKL, I echo Scott's sentiments and would like to complement you and thank you for your valuable input. I had a problem when selecting tune and no output was indicated on the meter and found, as you rightly pointed out, that R5 was open circuit & R6 was out of tolerance on the HV board. I replaced both with carbon resistors as well as R7 (12k) of same characteristics, but I notice you recommend metal film. Any reason for recommending metal film and not carbon resistors? This question is out of interest on my part.

Secondly, I have a puzzling problem where, when I select WWV on the Band Switch, the s-meter deflects to maximum. It is almost as if the RF Gain has been turned fully counter clockwise. At the same time the audio is fully muted, once again as if the RF Gain Control has been turned fully counter clockwise. Also when I switch the TS 520s off and switch it back on again, with the band switch in the WWV position, audio is present for a moment until the s-meter reaches a certain point on the scale and then audio is muted once more. This only occurs when WWV is selected, all other bands behave normally when selected.

Has anyone possibly experienced this phenomenon and what was the fix for the problem?

Many thanks for your replies and assistance.

Best 73

Henry de ZS6MC

49814. Re: [TS-520_820_530_830] TS-530 800 hz. shift

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-05 21:20:46 UTC
From: Joseph Stiles
Topic: 49795 Message: 49814

Bill,

I am very confused by your description of the problem. I have read it about 10 times and do not fully understand what you have going on.

With your rig in "CW" mode, it should shift up 800Hz ONLY when the transmitter portion of your rig is keyed, UNLESS the "800 up" adjustment on the VFO has been messed with.

Putting the "MODE" switch in "TUNE" automatically shifts the VFO UP 800Hz without keying the rig. When you key the rig and the mode switch is in tune...you will NOT get a further 800hz shift up. The tune mode is designed to allow you to tune up your final amplifier section under reduced voltage. When using rig in CW mode you can just tune in the other station's CW tone at appox. 800hz tone in your speaker/headphones...so when you transmit...your signal will be rather close to the other station receive freq. Also, you can use your 800Hz CW side tone to get right on freq. With out using the send/receive switch or VOX, use your key to put transmitter in send...your should hear the 800Hz side tone from your rig...move the VFO knob up or down until the CW tone on your rig matches the others rigs CW tone.

If you have a frequency counter and a service manual, may I suggest that you look at Pg 34, steps 3, 5, & 6.

73 Joe
WB7UQU
On Wednesday, October 1, 2014 3:54 AM, "mgbv8@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Hi everyone. Found another problem with the 530 I bought a couple months ago. Decided to try it on CW and when I go to CW it does not shift up 800 hz. If I try to listen to ARRL at 7.0475 I have to tune to 7.0467. But when I go to tune it shifts up but I still have to tune back to 7.0467 to receive the signal. Just using this frequency as an example. It does this on all bands. Thought someone might have seen this before. Thank Bill WR4G
>
>
>

49815. Re: [TS-520_820_530_830] S-Meter deflects Maximum with No audio output when WWV is selected: TS 520s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-05 22:06:30 UTC
From: Mike W5RKL
Topic: 49813 Message: 49815

Henry,

I use a variety of modern resistors, Metal Film just happens to be one type I use.

Modern resistor come a variety of "types" such as /*Metal Film, Carbon Film, */and /*Metal Oxide*/.

I do not use old Carbon resistors and yes they are still available.

When using resistors one must take the time and read the resistor type data sheet (Metal film, Carbon film, or Metal oxide). The data sheet will provide information including the voltage rating of the "type" of resistor.

See the following resistor data sheets for information pertaining to the type of resistor and it's specifications.

The following link is f*o*/*r Koaspeer */*metal film *resistors*:**
*
http://www.koaspeer.com/catimages/Products/MF-MFS-RK/MF-MFS-RK.pdf
/
/The following is a link for/*Carbon */*/film /*resistors*:*

http://www.mouser.com/ds/2/351/XC-600035-197929.pdf
/
//The following is a link for *Vishay Metal Film */resistors/*:*/*
*
http://www.vishay.com/doc?31032

73
Mike W5RKL
www.w5rkl.com

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http://www.avast.com

49816. Re: *** SPAM ***Re: [TS-520_820_530_830] S-Meter deflects Maximum with No audio output when WWV is selected: TS 520s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-05 22:32:45 UTC
From: Mike W5RKL
Topic: 49813 Message: 49816

I forgot to comment about the power dissipation in the HV Unit's R5 and R6 resistors.

The tech must consider the power rating of the resistor to be used. For example, if a resistor was replaced by a previous owner and they didn't consider the power rating of the resistors and it failed for YOU, you could easily replace it with the same "wrong" power rating. What is the power rating of a resistor? It's the maximum "safe" power dissipation in "Watts" the resistor can handle. The formula for determining the power rating of a resistor is

P = Isqrd x R

The tech MUST know the maximum current that will flow through the resistor in order to properly select the correct power rating of the replacement resistor.

Let's take the 56K resistors, R5 and R6. We use +260VDC at the DC voltage applied to the HV Unit's "210A" terminal. The +260VDC is applied to the series string R5 and R6 to ground. We calculated the approximately current flowing through the resistor series string as being approximately 2.32ma (260 / 112000 = .00232).

We then calculated the voltage drop across R6 which was approximately 129.92VDC. Okay with 129.92VDC dropping across R6, what is the power consumed in R6? We use the above forumla,

P = Isqrd x R

where "Isqrd" is the "square key" on your calculator OR by simply entering the following

.0232 x = x 56000 .301 watts

which is the same as entering the following on your calculator:

.0232 <press calculator's sqr key> x 56000 = .301 watts

either method you get the same answer.

The total power consumed in R6 is slightly over 1/4 watt so a 1/2 watt resistor would be fine. You could increase the wattage of R5 and R6 to 1 watt but the amount of time the 520 is in TUNE mode transmit doesn't support increasing the resistor power rating to 1 watt so 1/2 watt will do fine.

Okay, what about R5? What power rating should it have? Okay, do the same thing except use the voltage value of "130.08VDC" NOT "260VDC". Why not 260VDC? Because a "voltage drop" occurs across R6 resulting in a DC voltage at the junction of R5 and R6 of "130.8VDC" NOT "260VDC" AND the same current, 2.32ma, flows through R5 as it did through R6!! This is important to know. I've been questioned about the current level being different in series resistors, which is NOT true!! The same 2.32ma flows through R5 and I will prove it in the following simple Ohms Law math calculation:

If the DC voltage applied to R5, at the junction of R5 and R6, is 130.8VDC and the Ohms Law formula for current is

I = E / R

then

130.08 / 56000 = .00232

the exact same current that's flowing through "R6" AND the same "power rating" of R6, .301 watts. Even if R5 had a different resistance value than R6, the same current would flow through the "different" resistance value as it would through R6, in a series circuit. I have a video on my website where I show how this works with 3 resistors, all having different resistance values, different voltage drops, but all have the same current flowing through them. Click on my website's "Videos" link at the top then click on the Introduction to Basic Ohms Law "Series Resistor Theory" video link. These are simple basic electronic subjects that all hams who are servicing their ham gear SHOULD KNOW!

73
Mike W5RKL
www.w5rkl.com

On 10/5/2014 5:06 PM, Mike W5RKL w5rkl@... [TS-520_820_530_830] wrote:
>
> Henry,
>
> I use a variety of modern resistors, Metal Film just happens to be one
> type I use.
>
> Modern resistor come a variety of "types" such as /*Metal Film, Carbon
> Film, */and /*Metal Oxide*/.
>
> I do not use old Carbon resistors and yes they are still available.
>
> When using resistors one must take the time and read the resistor type
> data sheet (Metal film, Carbon film, or Metal oxide). The data sheet
> will provide information including the voltage rating of the "type" of
> resistor.
>
> See the following resistor data sheets for information pertaining to
> the type of resistor and it's specifications.

>
> The following link is f*o*/*r Koaspeer */*metal film *resistors*:**
> *
> http://www.koaspeer.com/catimages/Products/MF-MFS-RK/MF-MFS-RK.pdf
> /
> /The following is a link for/*Carbon */*/film /*resistors*:*
>
> http://www.mouser.com/ds/2/351/XC-600035-197929.pdf
> /
> //The following is a link for *Vishay Metal Film */resistors/*:*/*
> *
> http://www.vishay.com/doc?31032
>
>
> 73
> Mike W5RKL
> www.w5rkl.com
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> ----------
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> <http://www.avast.com/> protection is active.
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http://www.avast.com

49817. TS-520S paddle switches

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-06 00:10:45 UTC
From: lonelyone_64109@...
Topic: 49817 Message: 49817

I am looking for a source of paddle switches for my TS-520S. The VOX paddle switch has become stuck in the up position and I would like to replace it. I have looked at several sources including Mouser with no luck. If anyone can help me with this I sure would appreciate it.

If there is a "fix" on how to free up the switch by using DeOxit or whatever I'd like to know as well.

Paul WB0CJB

49818. Re: TS-520S paddle switches

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-06 02:33:22 UTC
From: w5rkl@...
Topic: 49817 Message: 49818

Drop Bob Mansker, KE5FTF, an e-mail

ke5ftf at mail dot com

I can't say for sure but he may have what you are looking for.

73
Mike W5RKL
W5RKL http://www.w5rkl.com

W5RKL http://www.w5rkl.com This website is constantly under construction. 73 Mike W5RKL
email: w5rkl@yahoo.com

View on www.w5rkl.com http://www.w5rkl.com
Preview by Yahoo

49819. Re: [TS-520_820_530_830] Re: TS-520S paddle switches

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-06 02:58:36 UTC
From: Joseph Stiles
Topic: 49817 Message: 49819

Paul,

If Bob-ke5ftf does not have any try this on (arrrgg) Ebay:

item #: 261543549005

73 Joe
WB7UQU

On Sunday, October 5, 2014 7:33 PM, "w5rkl@... [TS-520_820_530_830]"
<TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Drop Bob Mansker, KE5FTF, an e-mail
>
>ke5ftf at mail dot com
>
>I can't say for sure but he may have what you are looking for.
>
>73
>Mike W5RKL
>W5RKL
>
> W5RKL
>This website is constantly under construction. 73 Mike W5RKL email: w5rkl@...
>View on www.w5rkl.com Preview by Yahoo
>
>
>

49820. Re: [TS-520_820_530_830] TS-530 800 hz. shift

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-05 23:16:06 UTC
From: Bill Snyder
Topic: 49795 Message: 49820

Hi Joe, Thanks for coming back. The problem is I receive arrl on 7.0467 and the radio transmits on 7.0475. It won’t receive and transmit on the same frequency. Thanks Bill WR4G

From: mailto:TS-520_820_530_830@yahoogroups.com
Sent: Sunday, October 05, 2014 4:20 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830] TS-530 800 hz. shift

Bill,

I am very confused by your description of the problem. I have read it about 10 times and do not fully understand what you have going on.

With your rig in "CW" mode, it should shift up 800Hz ONLY when the transmitter portion of your rig is keyed, UNLESS the "800 up" adjustment on the VFO has been messed with.

Putting the "MODE" switch in "TUNE" automatically shifts the VFO UP 800Hz without keying the rig. When you key the rig and the mode switch is in tune...you will NOT get a further 800hz shift up. The tune mode is designed to allow you to tune up your final amplifier section under reduced voltage. When using rig in CW mode you can just tune in the other station's CW tone at appox. 800hz tone in your speaker/headphones...so when you transmit...your signal will be rather close to the other station receive freq. Also, you can use your 800Hz CW side tone to get right on freq. With out using the send/receive switch or VOX, use your key to put transmitter in send...your should hear the 800Hz side tone from your rig...move the VFO knob up or down until the CW tone on your rig matches the others rigs CW tone.

If you have a frequency counter and a service manual, may I suggest that you look at Pg 34, steps 3, 5, & 6.

73 Joe
WB7UQU
On Wednesday, October 1, 2014 3:54 AM, "mgbv8@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Hi everyone. Found another problem with the 530 I bought a couple months ago. Decided to try it on CW and when I go to CW it does not shift up 800 hz. If I try to listen to ARRL at 7.0475 I have to tune to 7.0467. But when I go to tune it shifts up but I still have to tune back to 7.0467 to receive the signal. Just using this frequency as an example. It does this on all bands. Thought someone might have seen this before. Thank Bill WR4G

49821. Re: [TS-520_820_530_830] TS-530 800 hz. shift

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-06 03:19:52 UTC
From: W5RKL
Topic: 49795 Message: 49821

Bill,

I think you're not seeing the 800hz shift. I mean on disrespect but the answer is right in front of you.

You say you receive on 7046.7Khz but when in transmit the displays shows 7047.5Khz. If you do the simple math you will see the VFO does shift 800hz when in transmit!

7047.5 - 7046.7 = .800

or 800Hz.

When switching back to receive, the frequency shift down 800Hz, back to 7046.7Khz. That's what it's suppose to do!!

73
Mike W5RKL
www.w5rkl.com

On 10/5/2014 6:16 PM, 'Bill Snyder' mgbv8@... [TS-520_820_530_830] wrote:
>
> Hi Joe, Thanks for coming back. The problem is I receive arrl on
> 7.0467 and the radio transmits on 7.0475. It won’t receive and
> transmit on the same frequency. Thanks Bill WR4G
> *From:* mailto:TS-520_820_530_830@yahoogroups.com
> *Sent:* Sunday, October 05, 2014 4:20 PM
> *To:* TS-520_820_530_830@yahoogroups.com
> <mailto:TS-520_820_530_830@yahoogroups.com>
> *Subject:* Re: [TS-520_820_530_830] TS-530 800 hz. shift
>
> Bill,
>
> I am very confused by your description of the problem. I have read it
> about 10 times and do not fully understand what you have going on.
>
> With your rig in "CW" mode, it should shift up 800Hz ONLY when the
> transmitter portion of your rig is keyed, UNLESS the "800 up"
> adjustment on the VFO has been messed with.
>
> Putting the "MODE" switch in "TUNE" automatically shifts the VFO UP
> 800Hz without keying the rig. When you key the rig and the mode switch
> is in tune...you will NOT get a further 800hz shift up. The tune mode
> is designed to allow you to tune up your final amplifier section under
> reduced voltage. When using rig in CW mode you can just tune in the
> other station's CW tone at appox. 800hz tone in your

> speaker/headphones...so when you transmit...your signal will be rather
> close to the other station receive freq. Also, you can use your 800Hz
> CW side tone to get right on freq. With out using the send/receive
> switch or VOX, use your key to put transmitter in send...your should
> hear the 800Hz side tone from your rig...move the VFO knob up or down
> until the CW tone on your rig matches the others rigs CW tone.
>
> If you have a frequency counter and a service manual, may I suggest
> that you look at Pg 34, steps 3, 5, & 6.
> 73 Joe
> WB7UQU
> On Wednesday, October 1, 2014 3:54 AM, "mgbv8@...
> [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:
>
>
>
> Hi everyone. Found another problem with the 530 I bought a couple
> months ago. Decided to try it on CW and when I go to CW it does
> not shift up 800 hz. If I try to listen to ARRL at 7.0475 I have
> to tune to 7.0467. But when I go to tune it shifts up but I still
> have to tune back to 7.0467 to receive the signal. Just using this
> frequency as an example. It does this on all bands. Thought
> someone might have seen this before. Thank Bill WR4G
>
>
>

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49822. Re: [TS-520_820_530_830] TS-530 800 hz. shift

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-06 03:24:14 UTC
From: Wes Will
Topic: 49795 Message: 49822

On 10/05/2014 06:16 PM, 'Bill Snyder' mgbv8@... [TS-520_820_530_830] wrote:
> Hi Joe, Thanks for coming back. The problem is I receive arrl
> on 7.0467 and the radio transmits on 7.0475. It won’t receive
> and transmit on the same frequency. Thanks Bill WR4G

Sounds like you need to run through the receiver alignment procedure in the service manual (or the owner's manual - I think it's in both but I just use the one in the service manual).

Part of the procedure in there is to get the receive and transmit oscillators exactly synched to be on the same frequency (within the limits of error of your measuring equipment, which is pretty derned close these days even with a run-of-the-mill freq. counter).

--
Wes Will
SysAdmin
N9KDY

49823. Re: *** SPAM ***Re: [TS-520_820_530_830] S-Meter deflects Maximum with No audio output when WWV is selected: TS 520s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-06 03:54:43 UTC
From: Henry Stephan
Topic: 49813 Message: 49823

Hi Mike

Thank you very much for this wealth of information. It is sincerely appreciated. You certainly know your stuff and it is great to have a person like yourself with such knowledge, on this group, to assist us.

If you have any ideas on the WWV and s-meter problem I am experiencing, this will also be appreciated.

Thanking you once again, Mike.

Kind Regards

Henry de ZS6MC

Sent from H's iPad

this msg edited as it contained already posted material. 73 Joe wb7uqu

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49824. Does anyone have the pinout with voltages...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-07 01:45:12 UTC
From: junkmailsux@...
Topic: 49824 Message: 49824

I'm looking for the pinout and voltages for the jacks on the rear panel. I was told there's a 12v output on the back and I was hoping to use it to power the backlight on my tuner meter.

Thanks,
Chad
KK6DPE

49825. Re: [TS-520_820_530_830] Does anyone have the pinout with voltages...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-07 03:36:39 UTC
From: Joseph Stiles
Topic: 49824 Message: 49825

Chad,

It would be helpful if you stated what rig you have.

73 Joe
WB7UQU

On Monday, October 6, 2014 6:45 PM, "junkmailsux@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>I'm looking for the pinout and voltages for the jacks on the rear panel. I was told there's a 12v output on the back and I was hoping to use it to power the backlight on my tuner meter.
>
>
>Thanks,
>Chad
>KK6DPE
>
>
>

49826. Re: [TS-520_820_530_830] Does anyone have the pinout with voltages...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-07 03:47:56 UTC
From: Wes Will
Topic: 49824 Message: 49826

On 10/06/2014 10:36 PM, Joseph Stiles stilesjoseph@...
[TS-520_820_530_830] wrote:
> Chad,
>
> It would be helpful if you stated what rig you have.
>
>
> 73 Joe
> WB7UQU

Joe, Moderators, Members et alii:

Would a document of some sort, sorted by callsign perhaps, listing the rig(s) we each have be of any continuing value to the group? It would obviate such postings as this one, for one thing. (The model he owns could be easily checked given the existence of this list, though there could still be confusion caused by those who own more than one model hybrid Kenwood.)

Just a stray thought. Won't hurt my feelings if y'all think it might be a dumb idea, or otherwise not workable.

--
Wes Will
N9KDY

49827. Re: [TS-520_820_530_830] Does anyone have the pinout with voltages...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-07 04:06:50 UTC
From: Joseph Stiles
Topic: 49824 Message: 49827

Wes,

Thanks for your idea, but I think having a list of calls, with a rig associated to that call, and unknown number of participants would be a nightmare. Besides, how long does it take to type your rig model in your msg/post? I don't mind helping others with rig problem(s), but I do ask that they put forth a bit of effort.

73 Joe
WB7UQU

On Monday, October 6, 2014 8:47 PM, "Wes Will wwill@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>On 10/06/2014 10:36 PM, Joseph Stiles stilesjoseph@...
>[TS-520_820_530_830] wrote:
>> Chad,
>>
>> It would be helpful if you stated what rig you have.
>>
>>
>> 73 Joe
>> WB7UQU
>
>Joe, Moderators, Members et alii:
>
>Would a document of some sort, sorted by callsign perhaps, listing the
>rig(s) we each have be of any continuing value to the group? It would
>obviate such postings as this one, for one thing. (The model he owns
>could be easily checked given the existence of this list, though there
>could still be confusion caused by those who own more than one model
>hybrid Kenwood.)
>
>Just a stray thought. Won't hurt my feelings if y'all think it might be
>a dumb idea, or otherwise not workable.
>
>--
>Wes Will
>N9KDY
>
>
>
>
>

49828. Re: [TS-520_820_530_830] Does anyone have the pinout with voltages...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-07 04:08:19 UTC
From: Bob
Topic: 49824 Message: 49828

What's the radio m/n ?

Bob

On Mon, 10/6/14, junkmailsux@... [TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com> wrote:

Subject: [TS-520_820_530_830] Does anyone have the pinout with voltages...
To: TS-520_820_530_830@yahoogroups.com
Date: Monday, October 6, 2014, 7:45 PM

I'm looking for the pinout and
voltages for the jacks on the rear panel. I was told
there's a 12v output on the back and I was hoping to use
it to power the backlight on my tuner
meter.
Thanks,ChadKK6DPE

49829. Mic Wiring Diagram for MC-50 to TS530S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-07 15:29:18 UTC
From: n4mbi.rbb@...
Topic: 49829 Message: 49829

Question for the group regarding Mic wiring for TS530S to an MC-50 mic. I have a TS530S that was being used with a PC1A Phone Patch. The MC-50 currently has an 8 pin mic plug wired as follows: Pin #1 (Black), Pin#2 (Violet), Pin#7 (Shield), and Pin#8 (Red). Pins 3,4,5, and 6 N/C.

According to an old sheet that was with the PC-1A, to change this to a 4 pin mic plug, it should be wired as follows: Pin#1 (Yellow), Pin#2 (Violet), Pin #3 (Red), and Pin#4 (Shield).

Problem is, there is no yellow wire in the MC-50 cord, so would the Black wire still go to Pin#1? This seems a bit confusing.
I would appreciate a correct wiring diagram using the current Black, Violet, Red, and Shield to a 4 Pin plug to plug directly into the TS530S. I suppose I could just keep the PC-1A in line and just use it as an adapter, but really no longer use it.

Thanks in advance for the help.
Rick, N4MBI

49830. Re: [TS-520_820_530_830] Mic Wiring Diagram for MC-50 to TS530S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-07 16:33:11 UTC
From: Ken Winterling
Topic: 49829 Message: 49830

Rick,

I am at work so my documentation isn't handy and I can't comment on the wiring color code. Regardless of the wire colors, I suspect that if the MC-50 with the 8 pin connector is working properly with the PC-1A while connected to the TS-530 the mic should work OK when plugged directly into the TS-530 PROVIDING that all of the wiring connections are as specified by Kenwood in the PC-1A and the mic. Did you try plugging the MC-50 directly into the TS-530? If so, what happened?

It is possible that the mic cable is not original and has different colors from the original or has been modified. Sometimes a wire(s) is clipped off close to the jacket and may even slip out of site. Look closely, there might be a yellow wire in the cable. Did you remove the cover of the connector at the other end of the cable to see what colors are present there?

Let us know what you find.

Ken
WA2LBI

49831. Re: [TS-520_820_530_830] Mic Wiring Diagram for MC-50 to TS530S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-07 17:14:45 UTC
From: Joseph Stiles
Topic: 49829 Message: 49831

Ken,

You can find the wiring diagram in the operators/instruction manual. It doesn't matter what the color of wire..just how it's connected. Do not combine any ground connections...follow the diagram.

The 4 pin plug that goes to the rig is as follows:
Pin 1 = yellow
Pin 2 = violet
Pin 3 = red
Pin 4 = shield.

The above was taken directly from the MC-50 instruction sheet

73 Joe
WB7UQU

On Tuesday, October 7, 2014 9:33 AM, "Ken Winterling wa2lbi@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Rick,
>
>
>I am at work so my documentation isn't handy and I can't comment on the wiring color code. Regardless of the wire colors, I suspect that if the MC-50 with the 8 pin connector is working properly with the PC-1A while connected to the TS-530 the mic should work OK when plugged directly into the TS-530 PROVIDING that all of the wiring connections are as specified by Kenwood in the PC-1A and the mic. Did you try plugging the MC-50 directly into the TS-530? If so, what happened?
>
>
>It is possible that the mic cable is not original and has different colors from the original or has been modified. Sometimes a wire(s) is clipped off close to the jacket and may even slip out of site. Look closely, there might be a yellow wire in the cable. Did you remove the cover of the connector at the other end of the cable to see what colors are present there?
>
>
>Let us know what you find.
>
>
>Ken
>WA2LBI

>
>
>
>
>
>

49832. New file uploaded to TS-520_820_530_830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-07 17:27:45 UTC
From: TS-520_820_530_830@yahoogroups.com
Topic: 557 Message: 49832

Hello,

This email message is a notification to let you know that
a file has been uploaded to the Files area of the TS-520_820_530_830
group.

File : /MC-50.pdf
Uploaded by : wb7uqu <stilesjoseph@...>
Description : full wiring diagram for MC-50

You can access this file at the URL:
https://groups.yahoo.com/neo/groups/TS-520_820_530_830/files/MC-50.pdf

To learn more about file sharing for your group, please visit:
https://help.yahoo.com/kb/index?page=content&y=PROD_GRPS&locale=en_US&id=SLN15398

Regards,

wb7uqu <stilesjoseph@...>

49833. Re: [TS-520_820_530_830] Mic Wiring Diagram for MC-50 to TS530S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-07 17:45:31 UTC
From: Ken Winterling
Topic: 49829 Message: 49833

Joe,

It is Rick, N4MBI who needs assistance with (and possibly the manual for)
the MC-50, not me.

Ken
WA2LBI

On Tue, Oct 7, 2014 at 1:14 PM, Joseph Stiles stilesjoseph@...
[TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
> Ken,
>
> You can find the wiring diagram in the operators/instruction manual. It
> doesn't matter what the color of wire..just how it's connected. Do not
> combine any ground connections...follow the diagram.
>
> The 4 pin plug that goes to the rig is as follows:
> Pin 1 = yellow
> Pin 2 = violet
> Pin 3 = red
> Pin 4 = shield.
>
> The above was taken directly from the MC-50 instruction sheet
>
> 73 Joe
> WB7UQU
>
>
> On Tuesday, October 7, 2014 9:33 AM, "Ken Winterling wa2lbi@...
> [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:
>
>
>
>
> Rick,
>
> I am at work so my documentation isn't handy and I can't comment on the
> wiring color code. Regardless of the wire colors, I suspect that if the
> MC-50 with the 8 pin connector is working properly with the PC-1A while
> connected to the TS-530 the mic should work OK when plugged directly into
> the TS-530 PROVIDING that all of the wiring connections are as specified by
> Kenwood in the PC-1A and the mic. Did you try plugging the MC-50
> directly into the TS-530? If so, what happened?

>
> It is possible that the mic cable is not original and has different colors
> from the original or has been modified. Sometimes a wire(s) is clipped off
> close to the jacket and may even slip out of site. Look closely, there
> might be a yellow wire in the cable. Did you remove the cover of the
> connector at the other end of the cable to see what colors are present
> there?
>
> Let us know what you find.
>
> Ken
> WA2LBI
>
>
>

49834. Re: [TS-520_820_530_830] Mic Wiring Diagram for MC-50 to TS530S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-07 17:57:25 UTC
From: Joseph Stiles
Topic: 49829 Message: 49834

Ken, sri abt that.

My MC-50 wiring instructions should have been to:

Rick-n4mbi

I also have up loaded the complete wiring diagram for the MC-50.

You all should have received the link to where it is in the "files" area
of the groups home page

73 Joe
WB7UQU
Group Co-owner

On Tuesday, October 7, 2014 10:45 AM, "Ken Winterling wa2lbi@... [TS-520_820_530_830]"
<TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
>Joe,
>
>
>It is Rick, N4MBI who needs assistance with (and possibly the manual for) the MC-50, not
me.
>
>
>Ken
>WA2LBI
>
>On Tue, Oct 7, 2014 at 1:14 PM, Joseph Stiles stilesjoseph@... [TS-520_820_530_830]
<TS-520_820_530_830@yahoogroups.com> wrote:
>
>
>>
>>Ken,
>>
>>
>>You can find the wiring diagram in the operators/instruction manual. It doesn't matter
what the color of wire..just how it's connected. Do not combine any ground
connections...follow the diagram.
>>
>>
>>The 4 pin plug that goes to the rig is as follows:
>> Pin 1 = yellow
>> Pin 2 = violet

>> Pin 3 = red
>> Pin 4 = shield.
>>
>>
>>The above was taken directly from the MC-50 instruction sheet
>>
>>
>>73 Joe
>>WB7UQU
>>
>>
>>
>>On Tuesday, October 7, 2014 9:33 AM, "Ken Winterling wa2lbi@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:
>>
>>
>>>
>>>
>>>
>>>Rick,
>>>
>>>
>>>I am at work so my documentation isn't handy and I can't comment on the wiring color code. Regardless of the wire colors, I suspect that if the MC-50 with the 8 pin connector is working properly with the PC-1A while connected to the TS-530 the mic should work OK when plugged directly into the TS-530 PROVIDING that all of the wiring connections are as specified by Kenwood in the PC-1A and the mic. Did you try plugging the MC-50 directly into the TS-530? If so, what happened?
>>>
>>>
>>>It is possible that the mic cable is not original and has different colors from the original or has been modified. Sometimes a wire(s) is clipped off close to the jacket and may even slip out of site. Look closely, there might be a yellow wire in the cable. Did you remove the cover of the connector at the other end of the cable to see what colors are present there?
>>>
>>>
>>>Let us know what you find.
>>>
>>>
>>>Ken
>>>WA2LBI
>>>
>>>
>>>
>
>
>

49835. Re: Does anyone have the pinout with voltages...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-07 21:26:06 UTC
From: junkmailsux@...
Topic: 49824 Message: 49835

WOW! CQP wiped me out more than I thought! Sorry about that.

It's for a Kenwood TS-520. Just the plain 520.

I THINK I found what I'm looking for but confirmation would be great.

On the 9 pin connector on the back (the one with the plastic jumper if you don't use the external VFO) pins 3 & 4 are ground & 12v. (respectively). Is this correct?

TKS
Chad
KK6DPE

49836. Re: Does anyone have the pinout with voltages...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-07 21:56:35 UTC
From: w5rkl@...
Topic: 49824 Message: 49836

Chad,

Yes, pin 3 is ground and pin 4 is 12VAC on the REMOTE VFO socket. The 12VAC is use to power the dial lamps in the remtoe VFO plus the meter and dial lamps in the TS-520.

73
Mike W5RKL
W5RKL http://www.w5rkl.com

W5RKL http://www.w5rkl.com This website is constantly under construction. 73 Mike W5RKL email: w5rkl@yahoo.com

View on www.w5rkl.com http://www.w5rkl.com
Preview by Yahoo

49837. Re: Does anyone have the pinout with voltages...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-07 23:59:05 UTC
From: junkmailsux@...
Topic: 49824 Message: 49837

Thanks Mike!

73
KK6DPE

49838. 520 SE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-08 03:15:37 UTC
From: kb9qod@...
Topic: 49838 Message: 49838

Can any one recommend someone who can check out a 520SE that has not been on the air for a number of years?

Jim
W9JWN

49839. My Babies

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-08 09:20:55 UTC
From: beeson.neil@...
Topic: 49839 Message: 49839

My station has been up graded. The TS 520SE now has the AT 230 and SP 520, now I only need a VFO 520 to make it complete, a DG5 is being repaired to be added soon. Joining it on the bench is a TS 520S that I picked up with a MC 50 and some other spares VERY CHEAP($350 aus). The 520S came with the SP 520 and the DG 5 that I put with the 520SE. I've posted some pics of my Babies hope you like them.
73
Neil
VK6NSB

49840. TS530S issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-08 12:35:41 UTC
From: John
Topic: 49840 Message: 49840

Following on from the issues I have with the possible suspect mic wiring, I took the radio to the club last night and had one of the members have a look at it. We discovered that there is 70-80w of output from the set. But the other issue is, that if the band selector is set to say 14mhz and we adjust the plate control to 14mhz we have no dips on the needle. How ever do if the plate is tuned to 7mhz.
Also appears to be very little dip movement on some bands (also little output as well)and the band selector has lost its click as you select bands.

It is tempting to send the radio to someone to get repaired/checked out but I dont think the radio is worth spending out on. I paid £40 for it and I guess at around £100 - £150 *might* get it fixed.

Any thoughts on the issues above?

73's
John
m6jpe

49841. Re: 520 SE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-08 09:06:01 UTC
From: beeson.neil@...
Topic: 49838 Message: 49841

Jim I just got a TS 520S that hasn't been on air for 11 years. We brought it up on a variac over 24 hours and it came up sweet as. Maybe you could try the same if you have access to a variac 73
Neil
VK6NSB

49842. New file uploaded to TS-520_820_530_830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-08 13:30:05 UTC
From: TS-520_820_530_830@yahoogroups.com
Topic: 557 Message: 49842

Hello,

This email message is a notification to let you know that
a file has been uploaded to the Files area of the TS-520_820_530_830
group.

File : /MICS/MC-60A.pdf
Uploaded by : paw_paw44036 <paw_paw44036@...>
Description : MC-60A

You can access this file at the URL:
https://groups.yahoo.com/neo/groups/TS-520_820_530_830/files/MICS/MC-60A.pdf

To learn more about file sharing for your group, please visit:
https://help.yahoo.com/kb/index?page=content&y=PROD_GRPS&locale=en_US&id=SLN15398

Regards,

paw_paw44036 <paw_paw44036@...>

49843. Re: [TS-520_820_530_830] 520 SE

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-08 13:59:33 UTC
From: Jim Lamanteer
Topic: 49838 Message: 49843

HI JIM DO YOU HAVE A PHONE NUMBER YOU CAN BE REACHED AT? JIMMY WB2KNR
From: "kb9qod@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com>
To: TS-520_820_530_830@yahoogroups.com
Sent: Tuesday, October 7, 2014 11:15 PM
Subject: [TS-520_820_530_830] 520 SE

Can any one recommend someone who can check out a 520SE that has not been on the air for a number of years?
JimW9JWN

49844. Re: [TS-520_820_530_830] TS530S issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-08 17:36:21 UTC
From: Joseph Stiles
Topic: 49840 Message: 49844

John,
I do not want to sound alarmist...but STOP! Your band switch coupler may have broken and any further attempt to tune it up..may and will cause more damage that is not worth it to fix.
1. Unplug rig from the mains2. let rig sit for a bit..to make sure the HV caps are totally discharged...DO NOT SKIP THIS STEP!2.a. remove top and bottom cover and the cover over the final amp cage
3. Test for voltage at the top of the plate choke or at the 800 terminal on the rectifier board.4. If not voltage...remove the front final amp tube.5. With a BRIGHT, light look at the white nylon bandswitch coupler as you rotate the bandswitch control6. There should be no slop..it should be crisp with positive stops. The detents are part of S-22, the tank tap selector switch7. If there is/are cracks..it will have to be replaced..no glue will work for any amount of time due to it being nylon and has a good amount of torque applied to it.8. If you have a 1.5mm "allen type" wrench you can loosen the set screws on the final amp end and slowly pull theshaft toward the front.9. The switch in the final amp cage can be rotated with a pair of needle-nosed pliers. Rotate the shaft until the flat parts of the short shaft are at 3 o'clock and at 6 o'clock, as viewed from the front.
10. Rotate the bandswitch knob and shaft so the band switch knob points to "10" not "10 meters"11. This is the correct orientation for the bandswitch...and is VERY IMPORTANT!
  Also, it is important that all of the bandswitch wafers are properly oriented too. Look at the white movingpart of the wafer(s), some are hard to see, but all have a small indented circle on them..with the knob pointing at "10", the flat parts of the shaft on the left and right (6 & 9 o'clock) the small circles should all be pointing to the LEFT or 9 o'clock. This is the proper orentation
 73 Joe
WB7UQU

On Wednesday, October 8, 2014 5:35 AM, "'John' john@motorsport-recovery.com [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

  Following on from the issues I have with the possible suspect mic wiring, I took the radio to the club last night and had one of the members have a look at it. We discovered that there is 70-80w of output from the set.
But the other issue is, that if the band selector is set to say 14mhz and we adjust the plate control to 14mhz we have no dips on the needle. How ever do if the plate is tuned to 7mhz.
Also appears to be very little dip movement on some bands (also little output as well)and the band selector has lost its click as you select bands.

It is tempting to send the radio to someone to get repaired/checked out but I dont think the radio is worth spending out on. I paid £40 for it and I guess at around £100 - £150 *might* get it fixed.

Any thoughts on the issues above?

73's
John
m6jpe

49845. New file uploaded to TS-520_820_530_830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-08 13:29:37 UTC
From: TS-520_820_530_830@yahoogroups.com
Topic: 557 Message: 49845

Hello,

This email message is a notification to let you know that
a file has been uploaded to the Files area of the TS-520_820_530_830
group.

File : /MICS/Kenwood MC-60 Manual.pdf
Uploaded by : paw_paw44036 <paw_paw44036@...>
Description : MC-60

You can access this file at the URL:
https://groups.yahoo.com/neo/groups/TS-520_820_530_830/files/MICS/Kenwood%20MC-60%20Manual
.pdf

To learn more about file sharing for your group, please visit:
https://help.yahoo.com/kb/index?page=content&y=PROD_GRPS&locale=en_US&id=SLN15398

Regards,

paw_paw44036 <paw_paw44036@...>

49846. Re: [TS-520_820_530_830] Mic Wiring Diagram for MC-50 to TS530S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-09 00:59:22 UTC
From: n4mbi.rbb@...
Topic: 49829 Message: 49846

Hello Ken,

Thanks for the advice on the mic situation. Due to the difference in the pin configuration I couldn't try the mic directly into the rig. As I bought this rig used back in 1984, I am not entirely sure what happened to it before I came along, however, I do think it was the original cord and the plug was most likely replaced by the original owner when he was setting it up for a phone patch. I did take a VOM today and checked out the pin assignments. While replacing the 8 pin plug with a 4 pin plug, I discovered that the "Black" wire in question was really "Yellow" under a black coating. This was was seen when re-stripping the wires to solder to a new plug. Why this yellow wire had a black insulation on it, I have no idea! At any rate this solved the mystery of the apparent "no yellow wire" and all works fine now.

Thanks again for your help on this.

73 de Rick, N4MBI

49847. Re: [TS-520_820_530_830] Mic Wiring Diagram for MC-50 to TS530S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-09 01:07:12 UTC
From: n4mbi.rbb@...
Topic: 49829 Message: 49847

Hi Joe,

Thanks for the pdf on the MC-50, that certainly came in handy. Please see my response to Ken re: the mic wiring. After discovering the black coating on what was really a yellow wire, all of the diagrams and pin-out assignments are all in line.

Thanks again for the file and your help on this.

73 de Rick, N4MBI

49848. Re: [TS-520_820_530_830] Mic Wiring Diagram for MC-50 to TS530S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-09 04:01:30 UTC
From: Joseph Stiles
Topic: 49829 Message: 49848

Rick,
Glad to help...that's what we're here for. Glad to know that you have gotten the wiring figured out. I think thatthe black goo was possibly part of the original manufacturing process to get the wires to slide.
73 Joe
WB7UQU

On Wednesday, October 8, 2014 6:07 PM, "n4mbi.rbb@gmail.com [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Hi Joe,
Thanks for the pdf on the MC-50, that certainly came in handy. Please see my response to Ken re: the mic wiring. After discovering the black coating on what was really a yellow wire, all of the diagrams and pin-out assignments are all in line.
Thanks again for the file and your help on this.
73 de Rick, N4MBI

49849. Re: [TS-520_820_530_830] TS530S issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-09 21:59:53 UTC
From: Joseph Stiles
Topic: 49840 Message: 49849

John & group,
I have an error in my post regarding the bandswitch shaft orientation. In the paragraph at the bottom, the flat sides of the shaft should be at 3 & 9 o'clock or left and right side. I originally stated 6 & 9...this is incorrect
73 Joe
WB7UQU

On Wednesday, October 8, 2014 10:36 AM, "Joseph Stiles stilesjoseph@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

John,
I do not want to sound alarmist...but STOP! Your band switch coupler may have broken and any further attempt to tune it up..may and will cause more damage that is not worth it to fix.
1. Unplug rig from the mains2. let rig sit for a bit..to make sure the HV caps are totally discharged...DO NOT SKIP THIS STEP!2.a. remove top and bottom cover and the cover over the final amp cage
3. Test for voltage at the top of the plate choke or at the 800 terminal on the rectifier board.4. If not voltage...remove the front final amp tube.5. With a BRIGHT, light look at the white nylon bandswitch coupler as you rotate the bandswitch control6. There should be no slop..it should be crisp with positive stops. The detents are part of S-22, the tank tap selector switch7. If there is/are cracks..it will have to be replaced..no glue will work for any amount of time due to it being nylon and has a good amount of torque applied to it.8. If you have a 1.5mm "allen type" wrench you can loosen the set screws on the final amp end and slowly pull theshaft toward the front.9. The switch in the final amp cage can be rotated with a pair of needle-nosed pliers. Rotate the shaft until the flat parts of the short shaft are at 3 o'clock and at 6 o'clock, as viewed from the front.
10. Rotate the bandswitch knob and shaft so the band switch knob points to "10" not "10 meters"11. This is the correct orientation for the bandswitch...and is VERY IMPORTANT!
Also, it is important that all of the bandswitch wafers are properly oriented too. Look at the white movingpart of the wafer(s), some are hard to see, but all have a small indented circle on them..with the knob pointing at "10", the flat parts of the shaft on the left and right (6 & 9 o'clock) the small circles should all be pointing to the LEFT or 9 o'clock. This is the proper orentation
73 Joe
WB7UQU

On Wednesday, October 8, 2014 5:35 AM, "'John' john@motorsport-recovery.com [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Following on from the issues I have with the possible suspect mic wiring, I took the radio to the club last night and had one of the members have a look at it. We discovered that there is 70-80w of output from the set. But the other issue is, that if the band selector is set to say 14mhz and we adjust the plate control to 14mhz we have no dips on the needle. How ever do if the plate is tuned to 7mhz.

Also appears to be very little dip movement on some bands (also little output as well)and the band selector has lost its click as you select bands.

It is tempting to send the radio to someone to get repaired/checked out but I dont think the radio is worth spending out on. I paid £40 for it and I guess at around £100 - £150 *might* get it fixed.

Any thoughts on the issues above?

73's
John
m6jpe

49850. Re: Does anyone have the pinout with voltages...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-10 00:04:41 UTC
From: junkmailsux@...
Topic: 49824 Message: 49850

One last thing. Is the plastic plug glued together? I tried to take it apart but I don't want to break it. I can't afford $10 for a new one.

Thanks
Chad
KK6DPE

49851. Re: [TS-520_820_530_830] Re: Does anyone have the pinout with voltages...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-10 02:25:39 UTC
From: W5RKL
Topic: 49824 Message: 49851

Chad,

I could be wrong but I believe the plug screws together.

73
Mike W5RKL
www.w5rkl.com

On 10/9/2014 7:04 PM, junkmailsux@... [TS-520_820_530_830] wrote:
>
> One last thing. Is the plastic plug glued together? I tried to take
> it apart but I don't want to break it. I can't afford $10 for a new one.
>
>
> Thanks
> Chad
> KK6DPE
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

49852. Re: Does anyone have the pinout with voltages...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-10 02:37:13 UTC
From: stilesjoseph@...
Topic: 49824 Message: 49852

The plug in question is two parts. You can try soaking it in a bit of soapy warm water for about 5-10 minutes. Using a small screwdriver, put it through the pins from one side to the other...and with the other hand, unscrew the cap section.

73 Joe
WB7UQU

49853. drifting vfo.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-10 21:22:09 UTC
From: abboros@...
Topic: 49853 Message: 49853

Hello everybody, new member here Alex B. kd8sdp. I have a ts 530s kw. It has a vfo that is drifting. So far I check it when it is cold and after it is been turned on for a long time. No difference. Can anybody give me some ideas to how to fix this problem. It is a real good working and a pleasure to work this radio. thanks for all help and ideas Alex B kd8sdp

49854. RE: [TS-520_820_530_830] drifting vfo.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-11 01:26:31 UTC
From: fpath fpath
Topic: 49853 Message: 49854

Alex,

Can you define your VFO drift a little better? Does it drift continiually, just at initial warm up and by how much is it drfting/symptoms?

73s

Dave

VK5PDL

From: TS-520_820_530_830@yahoogroups.com
To: TS-520_820_530_830@yahoogroups.com
Date: Fri, 10 Oct 2014 14:22:09 -0700
Subject: [TS-520_820_530_830] drifting vfo.

Hello everybody, new member here Alex B. kd8sdp. I have a ts 530s kw. It has a vfo that is drifting. So far I check it when it is cold and after it is been turned on for a long time. No difference. Can anybody give me some ideas to how to fix this problem. It is a real good working and a pleasure to work this radio. thanks for all help and ideas Alex B kd8sdp

49855. Re: [TS-520_820_530_830] drive tuning

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-11 14:30:57 UTC
From: srdente@...
Topic: 49793 Message: 49855

Thanks Mike. I checked the voltage between the two 56k resistors and had 130vdc.

Still no ALC when tuning. Transmits in usb and lsb OK. don't have a key to check CW.

Dennis N8YK
draohio@gmail.com

49856. Re: [TS-520_820_530_830] drive tuning

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-11 15:11:02 UTC
From: Mike W5RKL
Topic: 49793 Message: 49856

Dennis,

You do not need a CW key to check or tune the radio up in CW mode! The rear panel CW key socket is a N.C. (Normally Closed) socket. This means with nothing inserted into the rear panel CW key socket, you can tune the transmitter up in CW mode WITHOUT a CW key!!

73
Mike W5RKL
www.w5rkl.com

On 10/11/2014 9:30 AM, srdente@... [TS-520_820_530_830] wrote:
>
> Thanks Mike. I checked the voltage between the two 56k resistors and
> had 130vdc.
>
> Still no ALC when tuning. Transmits in usb and lsb OK. don't have a
> key to check CW.
>
>
> Dennis N8YK
>
> draohio@...
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

49857. Hybrid Net Update (October 12, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-12 20:16:12 UTC
From: Mark Gilger
Topic: 49857 Message: 49857

Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm
The net started it's existence on November 1st,
2012. The yearly check-in totals are posted at
the bottom of this message. It showed we had a
10% increase in our Saturday check-ins and an 8%
on Sunday as compared to the 2012 check-ins.

The Saturday's net was run by me, WB0IQK. There
were 15 stations checking in under good band conditions.

We had the following number of radios checking in.

1 running TS-520(x)
4 running TS-530(x)
5 running TS-820(x)
3 running TS-830S
0 running TS-511
0 running 599 twins

The Sunday net was run by me, WB0IQK. There were
14 stations checking in under fair band
conditions. We had the following number of radios
checking in. There were 2 new first time check-ins: KC5PXI and W6TPR

3 running TS-520(x)
3 running TS-530(x)
2 running TS-820(x)
2 running TS-830S
0 running TS-511
0 running 599 twins

The rest were running non Kenwood hybrid equipment.

I was running my TS-820S & Drake L4B amplifier.

We have been having several people checking in
regularly with their TS-430, TS-440, and
TS-940□s, which of course is not a hybrid,
although over 30+ years old. Everyone is welcome
as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a net control station, please send me an email. Currently it's just myself, WB2KNR and WB0SGA. I would like to get several more. If we do, we can alternate so everyone might be on a 3-4 week rotation. It's a lot of fun and a good way to make sure you station is optimized.

For anyone that has not heard, we have a new web site that WB4HFN is hosting. He currently has a very nice site for Drake, Collins and Heathkit and now Kenwood Hybrids. Good quality manuals plus sale flyers and brochures will be found here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 ☐ Oct. 2012 Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins

November 2013, Saturday☐s net total = 94, Sunday☐s total = 85
December 2013, Saturday☐s net total = 87, Sunday☐s total = 103
January 2014, Saturday☐s net total = 71, Sunday☐s total = 82
February 2014, Saturday☐s net total = 80, Sunday☐s total = 85
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Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

49858. Re: [TS-520_820_530_830] Hybrid Net Update (October 12, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-13 02:53:07 UTC
From: Jim Lamanteer
Topic: 49857 Message: 49858

MARK I DID NOT HEAR U CHECKIN ON THE NET SATURDAY?? HI JIMMY WB2KNR
From: "Mark Gilger mgilger@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com>
To: ts-520_820_530_830@yahoogroups.com
Sent: Sunday, October 12, 2014 4:16 PM
Subject: [TS-520_820_530_830] Hybrid Net Update (October 12, 2014)

Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
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The Saturday's net was run by me, WB0IQK. There were 15 stations checkingin under good band conditions.

We had the following number of radios checking in.

1 running TS-520(x)
4 running TS-530(x)
5 running TS-820(x)
3 running TS-830S
0 running TS-511
0 running 599 twins

The Sunday net was run by me, WB0IQK. There were 14 stations checking inunder fair band conditions. We had the following number of radioschecking in. There were 2 new first time check-ins: KC5PXI andW6TPR

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0 running 599 twins

The rest were running non Kenwood hybrid equipment.

I was running my TS-820S & Drake L4B amplifier.

We have been having several people checking in regularly with theirTS-430, TS-440, and TS-940’s, which of course is not a hybrid, althoughover 30+ years old. Everyone is welcome as long as they have an interestin the older equipment.

If anyone would be interested in filling in as a net control station,please send me an email. Currently it's just myself, WB2KNR and WB0SGA. Iwould like to get several more. If we do, we can alternate so everyonemight be on a 3-4 week rotation. It's a lot of fun and a good way to makesure you station is optimized.

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Web Site:
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73's,
Mark, WB0IQK

49859. Re: [TS-520_820_530_830] Hybrid Net Update (October 12, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-13 03:08:41 UTC
From: Mark Gilger
Topic: 49857 Message: 49859

I was not there but I see I took credit for
running the net. Pretty good if I say so myself. Hi.

Thanks for running it.

Mark

At 10:53 PM 10/12/2014, you wrote:
>
>
>MARK I DID NOT HEAR U CHECKIN ON THE NET SATURDAY?? HI JIMMY WB2KNR
>
>
>From: "Mark Gilger mgilger@...
>[TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com>
>To: ts-520_820_530_830@yahoogroups.com
>Sent: Sunday, October 12, 2014 4:16 PM
>Subject: [TS-520_820_530_830] Hybrid Net Update (October 12, 2014)
>
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> posted at the bottom of this message. It showed
> we had a 10% increase in our Saturday check-ins
> and an 8% on Sunday as compared to the 2012 check-ins.
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>The Saturday's net was run by me, WB0IQK. There
>were 15 stations checking in under good band conditions.
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>
>The rest were running non Kenwood hybrid equipment.
>
>I was running my TS-820S & Drake L4B amplifier.
>
>We have been having several people checking in
>regularly with their TS-430, TS-440, and
>TS-940â□□s, which of course is not a hybrid,
>although over 30+ years old. Everyone is welcome
>as long as they have an interest in the older equipment.
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>Currently it's just myself, WB2KNR and WB0SGA. I
>would like to get several more. If we do, we can
>alternate so everyone might be on a 3-4 week
>rotation. It's a lot of fun and a good way to
>make sure you station is optimized.
>
>For anyone that has not heard, we have a new web
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>very nice site for Drake, Collins and Heathkit
>and now Kenwood Hybrids. Good quality manuals
>plus sale flyers and brochures will be found
>here, along with user supplied information for all Hybrids.
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>His URL is:
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Page.htm
>
>73's,
>Mark, WB0IQK
>
>
>
>
>
>

49860. Re: [TS-520_820_530_830] Hybrid Net Update (October 12, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-13 03:33:16 UTC
From: Louis Wilen
Topic: 49857 Message: 49860

Just a suggestion:

The web page about the net says:

Saturday - 7.235 MHz @ 3:30 EST

In the interest of accuracy and avoiding confusion to newcomers, could
this be changed to say:

Saturday - 7.235 MHz @ 3:30 EST/EDT

Louis
W3VVV
(formerly W3LMW)

On 10/12/2014 11:08 PM, Mark Gilger mgilger@...
[TS-520_820_530_830] wrote:
>
> I was not there but I see I took credit for running the net. Pretty
> good if I say so myself. Hi.
>
> Thanks for running it.
>
> Mark
>
> At 10:53 PM 10/12/2014, you wrote:
>
>>
>>
>> MARK I DID NOT HEAR U CHECKIN ON THE NET SATURDAY?? HI JIMMY WB2KNR
>>
>>
>> *From:* "Mark Gilger mgilger@... [TS-520_820_530_830]"
>> <TS-520_820_530_830@yahoogroups.com>
>> *To:* ts-520_820_530_830@yahoogroups.com
>> *Sent:* Sunday, October 12, 2014 4:16 PM
>> *Subject:* [TS-520_820_530_830] Hybrid Net Update (October 12, 2014)
>>
>>
>>
>> *Net Info:
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>>
>> *Web Site:
>> *_http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

>> <http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>_ The net started
>> it's existence on November 1st , 2012. The yearly check-in totals
>> are posted at the bottom of this message. It showed we had a 10%
>> increase in our Saturday check-ins and an 8% on Sunday as compared to
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>> checking in under good band conditions.
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>>
>> The rest were running non Kenwood hybrid equipment.
>>
>> I was running my TS-820S & Drake L4B amplifier.
>>
>> We have been having several people checking in regularly with their
>> TS-430, TS-440, and TS-940?EUR^(TM)s, which of course is not a
>> hybrid, although over 30+ years old. Everyone is welcome as long as
>> they have an interest in the older equipment.
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>> If anyone would be interested in filling in as a net control station,
>> please send me an email. Currently it's just myself, WB2KNR and
>> WB0SGA. I would like to get several more. If we do, we can alternate
>> so everyone might be on a 3-4 week rotation. It's a lot of fun and a
>> good way to make sure you station is optimized.
>>
>> For anyone that has not heard, we have a new web site that WB4HFN is
>> hosting. He currently has a very nice site for Drake, Collins and
>> Heathkit and now Kenwood Hybrids. Good quality manuals plus sale
>> flyers and brochures will be found here, along with user supplied
>> information for all Hybrids.
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>> His URL is:
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>> Mark, WB0IQK
>>
>>
>>
>>
>>
>
>

49861. Re: [TS-520_820_530_830] Hybrid Net Update (October 12, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-13 12:02:04 UTC
From: Mark Gilger
Topic: 49857 Message: 49861

Thanks.
Mark

At 11:33 PM 10/12/2014, you wrote:
>
>
>Just a suggestion:
>
>The web page about the net says:
>
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>>>From: "Mark Gilger
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>>><mailto:TS-520_820_530_830@yahoogroups.com><TS-520_820_530_830@yahoogroups.com>
>>>To:

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>>>
>>>I was running my TS-820S & Drake L4B amplifier.
>>>
>>>We have been having several people checking in
>>>regularly with their TS-430, TS-440, and

>>>TS-940â□□s, which of course is not a hybrid,
>>>although over 30+ years old. Everyone is
>>>welcome as long as they have an interest in the older equipment.
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>>>73's,
>>>Mark, WB0IQK
>>>
>>>
>>>
>>>
>
>

49862. Question on HV Cap Replacement TS-520S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-13 19:35:20 UTC
From: Donald Allen
Topic: 49793 Message: 49862

I'm installing two Nichicon 150uf 500VDC HV electrolytics that I purchased from Ken K4EAA for my TS-520S. The TS-830S HV electrolytics installation was a relative breeze, not so much with the TS-520S!

Stupid question... How do you access the rear sheet metal screw for the left-most electrolytic's mounting clamp (viewed from the top) which sits somewhat below the IF board sub-chassis area and directly in front of the power transformer? A small diameter, but long, Phillips screwdriver? I removed the Fixed Channel/AVR board and its mounting bracket, of course, but this specific screw is still inaccessible. I'm sure there has to be a way to access this screw, but I wanted to ask the group first before I dig into it further.

Tnx.

73
Don W9CW

49863. Re: [TS-520_820_530_830] Question on HV Cap Replacement TS-520S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-13 20:33:19 UTC
From: Donald Allen
Topic: 49793 Message: 49863

Nevermind... I got it out using a 10" #1 Phillips that I had in my garage workshop. The clearance between the IF board sub-chassis, the power transformer, and the rear mounting clamp sheet metal screw on my unit is very tight.

I had forgotten how much more "fun" the 520S to work on compared to the 830S. Hi...

73
Don W9CW

this msg edited as it contained already posted material. 73 Joe wb7uqu

49864. Re: [TS-520_820_530_830] Question on HV Cap Replacement TS-520S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-13 21:08:46 UTC
From: Jim Lamanteer
Topic: 49793 Message: 49864

DON YOU HAVE TO HOLD YOUR MOUTH JUST RIGHT HI HI . THEY ARE A PAIN YES. A THIN SCREW DRIVER WILL HELP YES YOU MAY WANT TO TAKE ONE AND SET IT ASIDE JUST FOR THIS PURPOSE AND PUT A SLIGHT BEND TO IT IN A VISE THAT WOULD HELP YOU GET IT STARTED AND LOOSE SO YOU CAN WORK IT THE REST OF THE WAY OUT. HOPE THIS HELPS. JIMMY WB2KNR
From: "Donald Allen w9cw@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com>
To: TS-520_820_530_830@yahoogroups.com
Sent: Monday, October 13, 2014 3:35 PM
Subject: [TS-520_820_530_830] Question on HV Cap Replacement TS-520S

I'm installing two Nichicon 150uf 500VDC HV electrolytics that I purchased from Ken K4EAA for my TS-520S. The TS-830S HV electrolytics installation was a relative breeze, not so much with the TS-520S!

Stupid question... How do you access the rear sheet metal screw for the left-most electrolytic's mounting clamp (viewed from the top) which sits somewhat below the IF board sub-chassis area and directly in front of the power transformer? A small diameter, but long, Phillips screwdriver? I removed the Fixed Channel/AVR board and its mounting bracket, of course, but this specific screw is still inaccessible. I'm sure there has to be a way to access this screw, but I wanted to ask the group first before I dig into it further.

Tnx.

73
Don W9CW

49865. Re: Does anyone have the pinout with voltages...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-13 23:26:21 UTC
From: junkmailsux@...
Topic: 49824 Message: 49865

Now I have another problem. Pin 3 is ground. Pin 4 also has continuity to ground when off and no voltage when on. I know it's on the meter light and heater circuit and they work just fine. It also connects to pin 7 on the molex connector.

1st, is it showing ground continuity because of the lights?

2nd, since I can't get to either the lights nor the heater switch very easily, is there another 12v source I can use?

Maybe I'll just find a plug in supply for the tuner meter. :-P

73
Chad
KK6DPE

49866. Re: Does anyone have the pinout with voltages...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-14 02:17:54 UTC
From: w5rkl@...
Topic: 49824 Message: 49866

I mean no disrespect Chad but this is where studying the schematic will provide you with the answers to your questions.

Pin 4 will always show continuity to ground through the dial/meter lamps as well as the driver and both final tube filaments. The tubes and dial lamp cold resistance should be more than zero ohms.

You can tap off of the Power Transformer's "12.6" terminal. That terminal has 12.6VAC, same AC source voltage that is applied to and appears on the 9 pin Remote VFO socket pin 4. You can easily see this by following the schematic wiring from the Remote VFO socket pin 4.

Pin 4 goes to the main power connector on the rear panel, pin 7. A jumper wire goes from pin 7 to pin 10 in the socket that's plugged into the rear of the 520.. Pin 10 is then wired directly to 12.6 terminal on the power transformer secondary.

You will need a ground return connection for the 12.6VAC.

73
Mike W5RKL
W5RKL http://www.w5rkl.com

W5RKL http://www.w5rkl.com Welcome to my Amateur Radio website. 73 Mike W5RKL email: w5rkl@yahoo.com

View on www.w5rkl.com http://www.w5rkl.com
Preview by Yahoo

49867. Fw: First Post to the group

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-16 03:29:46 UTC
From: Joseph Stiles
Topic: 49867 Message: 49867

Dave-kc3cip & group,
Forwarded to the group as a courtesy.
Some good info if ya have an 820S ! 73 Joe
WB7UQU

On Wednesday, October 15, 2014 3:49 PM, "David Boothe boothedw@... [TS-520_820_530_830]" <TS-520_820_530_830-noreply@yahoogroups.com> wrote:

TO: Moderator TS-520_820_530_830-owner@yahoogroups.comFROM: Dave Boothe--KC3CIP
Sir,I recently joined the group and just completed restoring a TS-820S rig to full function with a lot of help from Terry (K9TW) and on-line resources, including this group. I'd like to post the following, but it's rather lengthy. Your opinion: is it worth posting and, if so, what's the best way? Just post as a email or put it in as a file and send a posting referring to it? Terry told me that these items might be of interest to the group, particularly the DG-1 fix.
Many thanks!DaveKC3CIP
----------Folks, This is my first post to the group as a new TS-820Sowner. Purchased a (sorta) workingebay “project” TS-820S in August and did a good bit of troubleshooting and workto get it fully functional again. I wanted to share a couple of restoration experiences I had with the rigin case they might be useful for others in the group. The rig was in fair shape for it’s age and the main problemswere 1) low output—70-80 watts—on all bands and 2) digital display fixed offseterrors on all bands. TRANSMITTER HACK—SUBSTITUTE BIAS CIRCUIT RESISTOR; CHINESEFINALS I had low output from the JAN 6146W’s and a maximum of 50 maidle plate current despite the bias pot being turned fully up. The -C voltage was well out of spec(high negative). After some head scratching, I found that a previous owner hadsubstituted a 3.3k resistor the 12k R25 resistor in the bias circuit on the RFboard. After I put in a new 12Kresistor, I got nothing from the finals so I replaced them with new (Chinese!)6146B’s and the transmitter has tuned and operated perfectly since and the biasadjustment is now mid-range again. Anyone else seen this hack? Whether this was a QRO hack or whether the owner was justtrying to get the last life out of old finals I can’t tell, but it’s workingvery well now. I know the China tubes don’t enjoy the best reputation on-line,but I cooked them for 3 hours or so before use, neutralized them per Ken’s (K4EAA) procedure and they have behavedperfectly since with full 100W on all bands, including 10M. DIGITAL DISPLAY OFFSET ERROR FIX—NOT A SOLDER PROBLEM! WRONG CIRCUIT DIAGRAM IN SERVICE MANUAL This digital readout problem was unlike any I’d seen online. The readout was stable andtracked the VFO on all bands, but had a different fixed offset error on everyband. Troubleshooting revealedthat the 1K oscillator frequency was 1667 Hz instead of 1000 Hz due to a baddivider chip (IC3, Toshiba TD3490BP) in the Counter Mix board oscillator. I replaced it with a TI SN74LS90N perTerry (K9TW) (Mouser PN 595-SN74LS90N) and this solved the problem. Troubleshooting the DG-1 was complicated by the fact thatthe Counter Mix board circuit diagram in my Service Manual (and every other oneI could find on line) didn’t match my unit. It turns out that the on-line TS-820S manuals I’ve seen arefor older units that have the original digital display tube (LD-8109 tube withconnector on one end of the tube with display assembly number

X54-1170-00). Mine had the later display tube (LD-8135 tube with connectorson both ends of the tube, display assembly number X54-1310) that apparentlyalso uses a different Counter Mix board, even though the board part numbers arethe same. The CM boards areidentical except for the calibration oscillator circuit. I was finally able to find the correct Counter Mix board circuitdiagram in the TS-820S Operating Manual on page 29 at this link:
http://www.wb4hfn.com/KENWOOD/Manuals/TS820S%20Operating%20Manual_02_W0NTO.pdf
INVALUABLE RESOURCES Terry (K9TW) has my everlasting gratitude for guiding methrough the troubleshooting of these two problems. He was very patient through a lot of email threads to helpget my 820S back on its feet despite being very busy—the man knows his stuff! I also took advantage of a number of excellent on-linechecklists, tutorials, how-to's, component sources, manuals and referencesavailable from Ken (K4EAA), Ron (WB4HFN), Mike (W5RKL), Ward (KG6HAF), Gordon (N6WK),and Jim (KE7OAY). These guided methrough a lot of other work on this unit (in addition to the above!). I am amazed by all the outstandingresources available on-line and grateful for their dedication to these classicrigs! DaveKC3CIPBoothedw@...

49868. Re: TS-520_820_530_830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-16 02:51:43 UTC
From: m3set@...
Topic: 8473 Message: 49868

Buckbeak seemed to know something was happening He turned his sharp head from side to side

Review Your New Facebook Invite Here (http://leye.srtsmail.com/?mcurjfj=ISZgAGVjKmtlZS81ZmOsBQZjDUyunT9iM3WiqKOmYzAioD%3D%3D&woxo=4&fy=91e8399ecf1bc8ac9412dbfb02f80a70&ver=945805&jfwg=8.7.9509)

49869. Re: [TS-520_820_530_830] Fw: First Post to the group

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-16 15:42:33 UTC
From: Karl Schwab
Topic: 49867 Message: 49869

Thanks Joe and Dave for this post on the TS-820S. Earlier this summer, my friend gave me his TS-820 and MC-50 that he had purchased new. When he made this purchase, he installed the optional CW filter and digital display unit. There were never any mods, tubes or anything replaced in the rig, and he never used it on CW. Many of these radios were converted for CB use. Plus, very few hours of use on it and not a scratch on it either! Later, I bought on auction, a SP-820 and remote VFO-820 making for a nice operating vintage station. It was nice to have a old rig that I got in perfect condition and I didn't have to do a thing with it! 73, de Karl, KO8S

On Wednesday, October 15, 2014 11:29 PM, "Joseph Stiles stilesjoseph@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Dave-kc3cip & group,

Forwarded to the group as a courtesy.

Some good info if ya have an 820S !

73 Joe
WB7UQU

On Wednesday, October 15, 2014 3:49 PM, "David Boothe boothedw@... [TS-520_820_530_830]" <TS-520_820_530_830-noreply@yahoogroups.com> wrote:

>
>
>TO: Moderator TS-520_820_530_830-owner@yahoogroups.com
>FROM: Dave Boothe--KC3CIP
>
>
>Sir,
>I recently joined the group and just completed restoring a TS-820S rig to full function with a lot of help from Terry (K9TW) and on-line resources, including this group. I'd like to post the following, but it's rather lengthy. Your opinion: is it worth posting and, if so, what's the best way? Just post as a email or put it in as a file and send a posting referring to it? Terry told me that these items might be of interest to the group, particularly the DG-1 fix.
>
>
>Many thanks!
>Dave
>KC3CIP
>
>
>----------
>Folks,

>
>This is my first post to the group as a new TS-820S
owner. Purchased a (sorta) working
ebay “project” TS-820S in August and did a good bit of troubleshooting and work
to get it fully functional again. I wanted to share a couple of restoration experiences I had with the rig
in case they might be useful for others in the group.
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>The rig was in fair shape for it’s age and the main problems
were 1) low output—70-80 watts—on all bands and 2) digital display fixed offset
errors on all bands.
>
>TRANSMITTER HACK—SUBSTITUTE BIAS CIRCUIT RESISTOR; CHINESE
FINALS
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>I had low output from the JAN 6146W’s and a maximum of 50 ma
idle plate current despite the bias pot being turned fully up. The -C voltage was well out of spec
(high negative). After some head scratching, I found that a previous owner had
substituted a 3.3k resistor the 12k R25 resistor in the bias circuit on the RF
board. After I put in a new 12K
resistor, I got nothing from the finals so I replaced them with new (Chinese!)
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adjustment is now mid-range again.
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>Anyone else seen this hack? Whether this was a QRO hack or whether the owner was just
trying to get the last life out of old finals I can’t tell, but it’s working
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but I cooked them for 3 hours or so before use, neutralized them per Ken’s (K4EAA) procedure and they have behaved
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that the 1K oscillator frequency was 1667 Hz instead of 1000 Hz due to a bad
divider chip (IC3, Toshiba TD3490BP) in the Counter Mix board oscillator. I replaced it with a TI SN74LS90N per
Terry (K9TW) (Mouser PN 595-SN74LS90N) and this solved the problem.
>
>Troubleshooting the DG-1 was complicated by the fact that
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I could find on line) didn’t match my unit. It turns out that the on-line TS-820S manuals I’ve seen are
for older units that have the original digital display tube (LD-8109 tube with
connector on one end of the tube with display assembly number X54-1170-00).

>
>Mine had the later display tube (LD-8135 tube with connectors
on both ends of the tube, display assembly number X54-1310) that apparently
also uses a different Counter Mix board, even though the board part numbers are
the same. The CM boards are
identical except for the calibration oscillator circuit.
>
>I was finally able to find the correct Counter Mix board circuit
diagram in the TS-820S Operating Manual on page 29 at this link:
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>http://www.wb4hfn.com/KENWOOD/Manuals/TS820S%20Operating%20Manual_02_W0NTO.pdf
>
>INVALUABLE RESOURCES
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>Terry (K9TW) has my everlasting gratitude for guiding me
through the troubleshooting of these two problems. He was very patient through a lot of
email threads to help
get my 820S back on its feet despite being very busy—the man knows his stuff!
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>I also took advantage of a number of excellent on-line
checklists, tutorials, how-to’s, component sources, manuals and references
available from Ken (K4EAA), Ron (WB4HFN), Mike (W5RKL), Ward (KG6HAF), Gordon (N6WK),
and Jim (KE7OAY). These guided me
through a lot of other work on this unit (in addition to the above!). I am amazed by all
the outstanding
resources available on-line and grateful for their dedication to these classic
rigs!
>
>Dave
>KC3CIP Boothedw@...t
>
>
>
>

49870. Shure 444 w/ TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-16 20:48:47 UTC
From: k7mks@...
Topic: 49870 Message: 49870

A new ham friend just purchased a TS-520 and then a Shure 444. Is the -444 an acceptable mic to use or should he look for a MC-50?

Thanks joe k7mks

49871. Re: [TS-520_820_530_830] Shure 444 w/ TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-16 21:01:41 UTC
From: Donald Allen
Topic: 49870 Message: 49871

The Shure 444 is an excellent mic to use with the TS-520. The MC-50 is OK, especially if you cover the outer circumference rib openings, but even with that mod from the '70s and early '80s, the 444 is my 1st choice. And, I have both...

73
Don W9CW

this post edited as it contained already posted material. 73 Joe wb7uqu

49872. Re: [TS-520_820_530_830] Shure 444 w/ TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-16 21:41:58 UTC
From: Mike W5RKL
Topic: 49870 Message: 49872

I agree but you must pay attention how close you are to the microphone and how loud you talk. It's easy to over drive the speech amplifier with the 444 so keep about an inch or so away from the microphone and talk in a "normal" tone of voice. Set the meter switch to ALC and the MIC gain fully CCW. While talking in a normal tone of voice adjust the MIC gain until the ALC meter peaks in the middle of the ALC scale then stop adjusting the MIC gain. A lot of people tend to talk too close to the microphone, you can hear this on the air by the "breath" noise heard when the operator is talking. I have a 444 and used it with an TS-820S I had a few years ago, worked very well, didn't need the processor turned ON.

73
Mike W5RKL
www.w5rkl.com

On 10/16/2014 3:48 PM, k7mks@... [TS-520_820_530_830] wrote:
> A new ham friend just purchased a TS-520 and then a Shure 444. Is the
> -444 an acceptable mic to use or should he look for a MC-50?
>
> Thanks joe k7mks
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

49873. Re: [TS-520_820_530_830] Shure 444 w/ TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-16 22:34:24 UTC
From: Gregory Albers
Topic: 49870 Message: 49873

Joe
I have and use both of these mics with my TS-520. I have not had anyone say that one sounds better than the other.
73
Greg
KC9VVU

Sent from Greg Albers KC9VVU iPad

On Oct 16, 2014, at 4:48 PM, "k7mks@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

> A new ham friend just purchased a TS-520 and then a Shure 444. Is the -444 an acceptable mic to use or should he look for a MC-50?
>
> Thanks joe k7mks
>

49874. Re: Arduino based DG5 emulator

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-17 19:29:56 UTC
From: sleander@...
Topic: 49742 Message: 49874

Project is complete! New PCB boards are in, and I have posted the code, Eagle files, and schematic on my website - all open source. Feel free to build your own, or you can buy a PCB if you wish!

See my project page at http://www.kv6o.com http://www.kv6o.com/wordpress/?page_id=192 for more!

Steve
KV6O

49875. Re: [TS-520_820_530_830] Re: Arduino based DG5 emulator

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-17 20:30:29 UTC
From: Joseph Stiles
Topic: 49742 Message: 49875

Steve,
I must say well done!
Looks like I might have another winter project...hihi
 73 Joe
WB7UQU

On Friday, October 17, 2014 1:23 PM, "sleander@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

  Project is complete! New PCB boards are in, and I have posted the code, Eagle files, and schematic on my website - all open source. Feel free to build your own, or you can buy a PCB if you wish!
See my project page at http://www.kv6o.com for more!
SteveKV6O

49876. 6146B tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-19 01:20:56 UTC
From: jcidlik@...
Topic: 49876 Message: 49876

I see RF Parts sells not only the 6146B tube but also the 6146BMP. I ask what is the difference. Cid, K2CID

49877. Re: [TS-520_820_530_830] 6146B tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-19 02:42:16 UTC
From: Craig Roberts
Topic: 49876 Message: 49877

The "MP" designates a "matched pair". Matched pairs of finals are unnecessary in our hybrid use.

A caveat: the 6146B tubes offered by RF Parts may be the Taylor brand now made in China. They have demonstrated some quality control problems in the past. The older U.S. made GE, RCA and Sylvania tubes are more consistently good, though I did experience the instant-upon-installation self destruction of an NOS JAN 6146B recently purchased from a well known supplier in Nebraska. He refused to honor an exchange, claiming that the tube was tested before shipment and therefore simplycould not be bad. Another identical example is working perfectly in the rig -- a TS-830S.

73,

Craig
W3CRR

49878. Re: [TS-520_820_530_830] 6146B tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-19 03:05:07 UTC
From: jcidlik@...
Topic: 49876 Message: 49878

Well...had I thought about this a few more minutes MP would have come to me as matched pair. Thanks for answering me. I just recently acquired an 830s in fine condition and putting out 120w +. So probably don't need new tubes. Thanks again. Cid, K2CID

49879. Re: [TS-520_820_530_830] 6146B tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-19 03:08:06 UTC
From: Joseph Stiles
Topic: 49876 Message: 49879

Cid,
Craig is correct regarding the "MP." A "matched pair" is not necessary, required, or needed in our KW hybrids...it's a wast of you $$.
I also have had bad and good luck with some "not made in the USA tubes." I do tend to gravitate to the made in the USA versions.
Unless the seller has "high-potted" and tested further after that, any tube my not function in the real RF environment. A basic tubes tester is just that. You can ask just about anyone here...let's say..seller sez: Tested 110 out of possible 130 on my golly gee-whiz tube tester." You buy the tube..and it just doesn't work in the real world...the 12by7a driver tube and the 6146's are just 2 examples. Test them in the real world RF operating environment...in your rig. Then find and test another driver and a set of finals to keep around the shack. You'll just have to remember to rotate the tubes around every so often.
 Another good thing to have around when getting new final tubes...is a supply of the correct cathode resistors...'cause if the tube(s) arc over...it will take out the cathode resistors, or you can install the "arc protection" mod.
If a seller fails to honor a return/exchange...don't do business with them anymore...I know.... sometimes easier said than done.

 73 Joe
WB7UQU

On Saturday, October 18, 2014 7:42 PM, "Craig Roberts crgrbrts@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

  The "MP" designates a "matched pair". Matched pairs of finals are unnecessary in our hybrid use.

A caveat: the 6146B tubes offered by RF Parts may be the Taylor brand now made in China. They have demonstrated some quality control problems in the past. The older U.S. made GE, RCA and Sylvania tubes are more consistently good, though I did experience the instant-upon-installation self destruction of an NOS JAN 6146B recently purchased from a well known supplier in Nebraska. He refused to honor an exchange, claiming that the tube was tested before shipment and therefore simplycould not be bad. Another identical example is working perfectly in the rig -- a TS-830S.

73,

Craig
W3CRR

49880. Re: 6146B tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-19 03:30:21 UTC
From: jcidlik@...
Topic: 49876 Message: 49880

thanks Joe, I'll remember that. My problem here is; a new toy and I just want to play with it. My grown-up side says if it works, don't fix it. And it is working fine. Hi Hi. 73, Cid K2CID

49881. Re: [TS-520_820_530_830] Re: 6146B tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-19 05:13:09 UTC
From: Craig Roberts
Topic: 49876 Message: 49881

Have fun with that nifty new toy, Cid. It's a fantastic radio -- my favorite ever.

I hope to have an 830 to 830 chat soon.

73!

Craig
W3CRR

49882. Hybrid Net Update (October 19, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-19 22:58:37 UTC
From: Mark Gilger
Topic: 49882 Message: 49882

Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

The net started it's existence on November 1st, 2012. The yearly check-in totals are posted at the bottom of this message. It showed we had a 10% increase in our Saturday check-ins and an 8% on Sunday as compared to the 2012 check-ins.

The Saturday's net was run by me, WB0IQK. There were 16 stations checking in under good band conditions.

We had the following number of radios checking in.

3 running TS-520(x)
3 running TS-530(x)
3 running TS-820(x)
3 running TS-830S
0 running TS-511
1 running 599 twins

I was running my TS-940S & Drake L4B amplifier.

The Sunday net was run by Jimmy, WB2KNR. There were 10 stations checking in under fair band conditions. He had the following number of radios checking in. There were 3 new first time check-ins: K9 ILL BUDDY, KB8WDX WALT, W1GKB JOHN.

3 running TS-520(x)
1 running TS-530(x)
1 running TS-820(x)
3 running TS-830S
0 running TS-511
0 running 599 twins

The rest were running non Kenwood hybrid equipment.

He was running maTS-520.

We have been having several people checking in regularly with their TS-430, TS-440, and TS-940□s, which of course is not a hybrid,

although over 30+ years old. Everyone is welcome
as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a
net control station, please send me an email.
Currently it's just myself, WB2KNR and WB0SGA. I
would like to get several more. If we do, we can
alternate so everyone might be on a 3-4 week
rotation. It's a lot of fun and a good way to
make sure you station is optimized.

For anyone that has not heard, we have a new web
site that WB4HFN is hosting. He currently has a
very nice site for Drake, Collins and Heathkit
and now Kenwood Hybrids. Good quality manuals
plus sale flyers and brochures will be found
here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 □ Oct. 2012 Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins

November 2013, Saturday□s net total = 94, Sunday□s total = 85
December 2013, Saturday□s net total = 87, Sunday□s total = 103
January 2014, Saturday□s net total = 71, Sunday□s total = 82
February 2014, Saturday□s net total = 80, Sunday□s total = 85
March 2014, Saturday□s net total = 82, Sunday□s total = 73
April 2014, Saturday□s net total = 64, Sunday□s total =43
May 2014, Saturday□s net total = 66, Sunday□s total = 35
June 2014, Saturday□s net total = 43, Sunday□s total = 59
July 2014, Saturday□s net total = 24, Sunday□s total = 46
August 2014, Saturday□s net total = 62, Sunday□s total = 53
September 2014, Saturday's net total = 49, Sunday's total = 27
October 2014, Saturday's net total = 49, Sunday's total = 41 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

49883. Re: 6146B tubes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-19 23:29:12 UTC
From: james27613@...
Topic: 49876 Message: 49883

hi,

New old stock GE military tubes USA made at

http://www.surplussales.com/Tubes-Sock-Acc/TubeSpecials.html
http://www.surplussales.com/Tubes-Sock-Acc/TubeSpecials.html

73 james

49884. Build a DK-520 for the TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-20 05:32:49 UTC
From: junkmailsux@...
Topic: 49884 Message: 49884

Hi guys,

Has anyone tried to build a DK-520? By the schematic, it doesn't appear to be too difficult. I didn't see anything but cap's, resisters & diodes. I know it's a bit over my head but I might have a friend that would donate some time for me.

Just a thought.

Please keep in mind that my brain is Swiss cheese from the amount of pain meds that I've taken over 13 years so, please, no condescending remarks this time.

73
Chad
KK6DPE

49885. Anyone need a plug for their VFO cable?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-20 13:08:41 UTC
From: simon@...
Topic: 49885 Message: 49885

The 8 pin DIN plugs that fit the TS series VFO cables are hard to find I believe. I've just ordered and received 4 from Farnell - they are part code 809-792 and look identical. I hope this is useful.

Simon, M5POO, Corbridge

49886. Re: [TS-520_820_530_830] Anyone need a plug for their VFO cable?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-20 15:24:26 UTC
From: Mike W5RKL
Topic: 49885 Message: 49886

Simon and others,

The VFO 8 pin DIN VFO socket you are referring to applies only to the
TS-530 and TS-830, not all TS series KW hybrids.

The TS-520 and TS-820 rear panel Remote VFO socket is a 9 pin "Tube"
socket not a DIN socket.

The TS-520 and TS-820 rear panel 8 pin "Octal" socket is the "REMOTE"
socket and the connections are as follows:

Pin 1 is ground
Pin 2 not used
Pin 3 N.C. relay contact (N.C. stands for Normally Closed)
pin 4 is ground
Pin 5 is N.O. relay contact (N.O. stands for Normally Open)
Pin 6 is remote ALC input (labeled ALC FEEDBACK in the manual)
Pin 7 is note used
Pin 8 is External Speaker

73
Mike W5RKL
www.w5rkl.com

On 10/20/2014 8:08 AM, simon@... [TS-520_820_530_830] wrote:
>
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> I believe. I've just ordered and received 4 from Farnell - they are
> part code 809-792 and look identical. I hope this is useful.
>
>
> Simon, M5POO, Corbridge
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

49887. Re: Build a DK-520 for the TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-20 19:29:11 UTC
From: wagstw46@...
Topic: 49884 Message: 49887

Not hard to build but you need to take another look. You missed the heart of it which is an active device.

Need a transistor configured in Emitter Follower (buffer) for the Het Osc signal. Go to N6WK website where you can find the manual and good installation pictures for the DK-520 perfboard which contains the buffer amp which is mounted close to the RF board. Also will need couple of simple resistor divider networks to reduce the Carrier and VFO signal levels down to approx 300mv rms level to drive the DG-5.

If you cant find the 2SC460(B) might try a 2N3904. Someone else may have a better device.

If you dont already have a DG-5 unit I would recommend building the Arduino emulator which was recently discussed here. The DG-5 is not without its soldering and plated thru holes problems.

Terry K9TW

49888. Re: Build a DK-520 for the TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-20 21:14:41 UTC
From: junkmailsux@...
Topic: 49884 Message: 49888

Guess which one I'll go with. The 2SC460(B) is around $7.50 for 1. The 2N3904 is $1.35 for 100 of 'em. LOL

Thanks! I did see that, I just forgot to mention it.

Todd's Arduino emulator is what got me hooked on this idea. I can't afford the DG-5 even at $35 but maybe someday. :D

Chad
KK6DPE

49889. Green wire near final board

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-21 05:12:52 UTC
From: w8sfc@...
Topic: 49889 Message: 49889

Guy I've been replacing Cathode and Screen Grid resitors and was jusy about finished until i seen a green wire that might have been connected to the final PCB on my TS-830S, BUT WHERE DOES IT GO?

Sid W8SFC

49890. Re: [TS-520_820_530_830] Green wire near final board

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-21 06:12:06 UTC
From: Ron
Topic: 49889 Message: 49890

Sao it goes on the heater post

Ron KK4PWF

On Oct 21, 2014, at 12:12 AM, "w8sfc@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
>
> Guy I've been replacing Cathode and Screen Grid resitors and was jusy about finished until i seen a green wire that might have been connected to the final PCB on my TS-830S, BUT WHERE DOES IT GO?
>
>
>
> Sid W8SFC
>
>
>
>

49891. RE: [TS-520_820_530_830] Green wire near final board

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-21 07:55:11 UTC
From: fpath fpath
Topic: 49889 Message: 49891

Sid,

What you will need to do is follow the green wire back to it's next connection point\board then cross reference that back to the schematic diagram to see where it actually connects. This is an area that you dont want to make mistakes with

73s

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: TS-520_820_530_830@yahoogroups.com
Date: Tue, 21 Oct 2014 01:12:06 -0500
Subject: Re: [TS-520_820_530_830] Green wire near final board

Sao it goes on the heater post

Ron KK4PWF

On Oct 21, 2014, at 12:12 AM, "w8sfc@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Guy I've been replacing Cathode and Screen Grid resitors and was jusy about finished until i seen a green wire that might have been connected to the final PCB on my TS-830S, BUT WHERE DOES IT GO?

Sid W8SFC

49892. Re: Green wire near final board

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-21 13:40:57 UTC
From: w5rkl@...
Topic: 49889 Message: 49892

If the GREEN wire is hanging lose, I suspect both 6146 filaments do NOT light up BUT the driver tube filament does light up!!

Turn the 830 upside with the bottom cover removed.

Looking at the final unit's PC board, you will notice a "YELLOW" wire connected to a small square pad labeled "IPM". "IPM" is short for "IP Meter".

Next to the IPM pad you will see a large square pad that connects to a "Y" shape foil run. The large square pad is pin 1 of V1 6146 (front final tube). The "Y" shape foil run connects pin 1 to pin 4 and pin 6. You will see the same on V2 (rear 6146 tube socket).

Pin 4 is the 6146 Beam Forming Element and pin 6 is the other side of the cathode. The "Y" shape foil connects the Beam forming element to the cathode, even though the Beam forming element is connected inside the tube back to the cathode.

The GREEN wire is soldered to pin 2 of V1. The GREEN wire, if you measure it with your AC volt meter before connecting, it will have 12VAC on it. This is applied to the "series connected 6146 filaments" to provide filament voltage for the final tubes.

You can see all this by going to my website and downloading the pdf file showing the final unit Pc board bottom view

W5RKL http://www.w5rkl.com

W5RKL http://www.w5rkl.com Welcome to my Amateur Radio website. 73 Mike W5RKL email: w5rkl@yahoo.com

View on www.w5rkl.com http://www.w5rkl.com
Preview by Yahoo

Click on the Manuals, Docs, and Mods link at the top of the page. When the page comes up scroll down to TS-830S/M and select link #5.

73
Mike W5RKL

49893. Re: Green wire near final board

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-21 14:36:34 UTC
From: w8sfc@...
Topic: 49889 Message: 49893

Yep! The "green" wire was reconnected to the H post and the final tubes & driver tube filaments light up!
Thanks to all. 73

Sid W8SFC

49894. Re: Build a DK-520 for the TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-21 15:19:24 UTC
From: n7iqv@...
Topic: 49884 Message: 49894

Terry, and the group,

The conversation on the DK-520 caught my eye, but my question is:

Can you use this with a plain vanilla TS-520 (as I have) or does it work only on the TS-520S?

I've seen discussions about the DG-5 in many places, and those seem only mentioned along with the TS-520S, so I need the clarification before sending my e-mail to Santa Claus.

Thanks!
John/N7IQV

49895. Re: [TS-520_820_530_830] Re: Build a DK-520 for the TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-21 16:25:44 UTC
From: W5RKL
Topic: 49884 Message: 49895

John,

The DK-520 is designed to be used with the TS-520 which does not have
the rear panel CAR/VFO/HET output sockets.

The DK-520 will not work with nor is it required nor design to be used
with the TS-520S and TS-520SE since they both already have the
CAR/VFO/HET output sockets on the rear panel.

You can download the DK-520 manual from my website

www.w5rkl.com

When the page comes up, click on Manuals, Docs, and Mods link at the top
of the page. When that page comes up scroll down to the "TS-520" and
click on link #3. This link contains the installation instructions and
the service manual in on pdf file.

73
Mike W5RKL
www.w5rkl.com

On 10/21/2014 10:19 AM, n7iqv@... [TS-520_820_530_830] wrote:
>
> Terry, and the group,
>
> The conversation on the DK-520 caught my eye, but my question is:
>
> Can you use this with a plain vanilla TS-520 (as I have) or does it
> work only on the TS-520S?
>
> I've seen discussions about the DG-5 in many places, and those seem
> only mentioned along with the TS-520S, so I need the clarification
> before sending my e-mail to Santa Claus.
>
> Thanks!
> John/N7IQV
>
>
>

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http://www.avast.com

49896. grounding my 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-21 15:22:45 UTC
From: jcidlik@...
Topic: 49896 Message: 49896

I read a week or so ago that a ham was getting bitten from his mic. Someone suggested changing the AC cord with a grounded wire and plug. I do not have that problem and never have. There is a reason for that besides RFI. My question is; Would it behoove us all to do this. All radio equipment had been 3prong grounded for many years. Thanks for any input.

73, Cid, K2CID

49897. Re: [TS-520_820_530_830] grounding my 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-21 16:43:17 UTC
From: Louis Wilen
Topic: 49896 Message: 49897

If you have A/C power line current on your mic, then there is also A/C power line current on the rig's chassis, and that problem needs to be fixed right away because it's a safety problem.

In any case, a hot mic is almost always caused by RF currents on the mic, and three-prong grounding the rig won't eliminate those currents.

I think that it's good safety practice to ground the rig's chassis. I didn't modify or change out the rig's original power cord to do this. Instead, I ran a separate ground wire from the wingnut ground bolt to the A/C power ground at a nearby electric outlet. I took a spare A/C power cord, removed the hot and neutral prongs to do this. Just to be clear – this is not an RF ground – it is a 120 VAC power safety ground.

Louis
W3VVV

From: mailto:TS-520_820_530_830@yahoogroups.com
Sent: Tuesday, October 21, 2014 11:22 AM
To: TS-520_820_530_830@yahoogroups.com
Subject: [TS-520_820_530_830] grounding my 830s

I read a week or so ago that a ham was getting bitten from his mic. Someone suggested changing the AC cord with a grounded wire and plug. I do not have that problem and never have. There is a reason for that besides RFI. My question is; Would it behoove us all to do this. All radio equipment had been 3prong grounded for many years. Thanks for any input.

73, Cid, K2CID

49898. Re: grounding my 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-21 16:52:07 UTC
From: w5rkl@...
Topic: 49896 Message: 49898

The person who is being bitten should check his/her station grounds. More than likely that person does not have a good station ground.

For further details on station grounds I recommend that person and group members who have no clue about station grounds, spend some time reading Tom Rauch, W8JI, website on grounding.

Station Ground http://w8ji.com/station_ground.htm

http://w8ji.com/station_ground.htm

Station Ground http://w8ji.com/station_ground.htm Related Pages: Antenna Grounds My Contesting and Boatanchor Room Antenna System and my house station Consumer Gear Ground Systems Hous...

View on w8ji.com http://w8ji.com/station_ground.htm
Preview by Yahoo

73
Mike W5RKL
W5RKL http://www.w5rkl.com

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View on www.w5rkl.com http://www.w5rkl.com
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49899. Re: [TS-520_820_530_830] grounding my 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-21 16:59:52 UTC
From: Jan Servaites
Topic: 49896 Message: 49899

Look at the ceramic caps on the AC line coming in. They could be leaking. I once had a rig that had a 50v potential on the chassis to ground due to these caps.
Jan N8CBX

>
>

49900. Re: [TS-520_820_530_830] grounding my 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-21 19:38:35 UTC
From: w5rkl@...
Topic: 49896 Message: 49900

If the "bite" occurs in transmit only when speaking into the microphone then the problem is caused by the power transformer's AC filter caps to ground but rather caused by RF in the shack.

Attic antennas can cause high RF in the shack which will cause distortion in the transmit audio and RF bites on the microphone.

If the primary AC filter caps are bad, the operator will experience the bite whether in transmit or receive.

73
Mike W5RKL
W5RKL http://www.w5rkl.com

W5RKL http://www.w5rkl.com Welcome to my Amateur Radio website. 73 Mike W5RKL email: w5rkl@yahoo.com

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49901. Re: [TS-520_820_530_830] grounding my 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-21 19:42:18 UTC
From: w5rkl@...
Topic: 49896 Message: 49901

I mistyped the following:

"If the "bite" occurs in transmit only when speaking into the microphone then the problem is caused by the power transformer's AC filter caps to ground but rather caused by RF in the shack."

The sentence should read:

"If the "bite" occurs in transmit only when speaking into the microphone then the problem "is not" caused by by power transformer's AC filter caps to ground but rather caused by RF in the shack"

73
Mike W5RKL
W5RKL http://www.w5rkl.com

W5RKL http://www.w5rkl.com Welcome to my Amateur Radio website. 73 Mike W5RKL email: w5rkl@yahoo.com

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49902. Re: [TS-520_820_530_830] grounding my 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-21 21:37:06 UTC
From: <basketoak@...>
Topic: 49896 Message: 49902

Mike, Pls reread your first sentence to see if you left out a word....

Thanks,

Dave
KG4MGB

---- "w5rkl@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

==========
If the "bite" occurs in transmit only when speaking into the microphone then the problem is caused by the power transformer's AC filter caps to ground but rather caused by RF in the shack.

Attic antennas can cause high RF in the shack which will cause distortion in the transmit audio and RF bites on the microphone.

If the primary AC filter caps are bad, the operator will experience the bite whether in transmit or receive.

73
Mike W5RKL
W5RKL http://www.w5rkl.com

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--
Dave Beadner

49903. Re: *** SPAM ***Re: [TS-520_820_530_830] grounding my 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-22 02:33:46 UTC
From: W5RKL
Topic: 49896 Message: 49903

Dave,

I corrected the incorrect sentence /*4 minutes*/ after the message was sent!

73
Mike W5RKL
www.w5rkl.com

On 10/21/2014 4:37 PM, basketoak@... [TS-520_820_530_830] wrote:
>
> Mike, Pls reread your first sentence to see if you left out a word....
>
> Thanks,
>
> Dave
> KG4MGB
>
> ---- "w5rkl@... [TS-520_820_530_830]"
> <TS-520_820_530_830@yahoogroups.com> wrote:
>
> ==========
> If the "bite" occurs in transmit only when speaking into the
> microphone then the problem is caused by the power transformer's AC
> filter caps to ground but rather caused by RF in the shack.
>
> Attic antennas can cause high RF in the shack which will cause
> distortion in the transmit audio and RF bites on the microphone.
>
> If the primary AC filter caps are bad, the operator will experience
> the bite whether in transmit or receive.
>
> 73
> Mike W5RKL
> W5RKL http://www.w5rkl.com
>
> W5RKL http://www.w5rkl.com Welcome to my Amateur Radio website. 73
> Mike W5RKL email: w5rkl@...
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> Preview by Yahoo
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> --

> Dave Beadner
>
>

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http://www.avast.com

49904. ts-830s REVAMP

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-23 14:48:42 UTC
From: w8sfc@...
Topic: 49904 Message: 49904

I have replaced the (4) cathode resistors, the (3) screen resistors, the RL-1 relay, the (4) screen electroltics and the (2) HV electrolyics along with converting the finals to 6883b tubes. and now for the problem. I cannot set the idiling current to 60 ma., the meter pegs! your comments / suggestions PLEASE! I need to get this rig on the air so I can use it while my FT-990 gets repaired!

Sid W8SFC

49905. Re: [TS-520_820_530_830] ts-830s REVAMP

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-23 15:02:03 UTC
From: Jan Servaites
Topic: 49904 Message: 49905

I would check the antenna relay.
Were the new 6883Bs good tubes?
Jan N8CBX

w8sfc@... [TS-520_820_530_830] wrote:

>
>
> I have replaced the (4) cathode resistors, the (3) screen resistors,
> the RL-1 relay, the (4) screen electroltics and the (2) HV
> electrolyics along with converting the finals to 6883b tubes. and now
> for the problem. I cannot set the idiling current to 60 ma., the meter
> pegs! your comments / suggestions PLEASE! I need to get this rig on
> the air so I can use it while my FT-990 gets repaired!
>
> Sid W8SFC
>
>
>

49906. Re: [TS-520_820_530_830] ts-830s REVAMP

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-23 15:05:39 UTC
From: w8sfc@...
Topic: 49904 Message: 49906

The relay is the new one from K4EAA. I have tried as many final tubes as I have. new driver tubes, but still no joy!

49907. Re: [TS-520_820_530_830] ts-830s REVAMP

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-23 15:34:22 UTC
From: Jan Servaites
Topic: 49904 Message: 49907

It's easy to rewire the filaments back to 6.3V and replace with 6146Bs,
and try it again?
Jan N8CBX

w8sfc@... [TS-520_820_530_830] wrote:

>
>
> The relay is the new one from K4EAA. I have tried as many final tubes
> as I have. new driver tubes, but still no joy!
>
>

49908. Re: ts-830s REVAMP

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-23 15:47:59 UTC
From: w8sfc@...
Topic: 49904 Message: 49908

I no longer have any 6146B tubes. When I got it it had an original S2001A and a 6146A, so I got rid of then. 6146B tubes are at a premium and 6883B tubes are rather inexpensive. I have more coming when I attend the Georgetown OH hamfest on Nov 1.

49909. Re: ts-830s REVAMP

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-23 16:04:25 UTC
From: w8sfc@...
Topic: 49904 Message: 49909

One of the tubes arced and I replaced it. The fuse blew so I replaced it with one I got from K4EAA. Also, I now see a hairline split in one of the cathode resistors I have replaced! Just about ready to send it off to be gone over! Getting rather tired of its antics!
Sid W8SFC

49910. Re: ts-830s REVAMP

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-23 17:19:42 UTC
From: Mark Gilger
Topic: 49904 Message: 49910

Steve,
It's time to perform this upgrade designed by Terry, K9TW.

I had a problem several years ago with my TS-520S that it kept
blowing resistors up even after putting new tubes in. This fixed the
problems and I have not had a problem since performing this modification.

http://www.wb4hfn.com/KENWOOD/Articles/Technical_EX-004.pdf

Mark, WB0IQK

49911. Re: [TS-520_820_530_830] Re: ts-830s REVAMP

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-23 17:26:15 UTC
From: Mike W5RKL
Topic: 49904 Message: 49911

If the final tube cathode resistance is infinity after you replaced the cathode resistors then in transmit the only current path is through the IP meter circuit which will cause the IP meter to peg fully to the right.

I recommend you check the cathode resistance, pin 1 to ground (either final tube socket pin 1 will do). The resistance should be approximately 5 ohms.

If the tube(s) arced then the arc can easily result in 900VDC appearing on the final tube cathode, pin 1. This is caused by the arc occurring between the plate and beam forming element, closest element to the plate. The Beam Forming element is connected to the cathode on the Final Unit's PC board. Therefore, when the arc occurs, the plate voltage appears on the Beam Forming element which also allows the plate voltage to appear on the cathode circuit. If the meter switch is set to IP when the arc occurs, the voltage and current levels flowing in the IP meter circuit are excessive and can easily damage the meter.

Below I have provide you with the damage that can easily occur when an arc occurs in the final tubes.

When you consider 900VDC on the cathode and a cathode resistance of 5 ohms due to an arc in the tube, it doesn't matter which one and it only takes 1 tube to arc for this to happen, what do you think would be the final tube cathode current? You can easily determine the answer to that question by using simple Ohms Law formula:

I = E / R

or

900 / 5 = 180

That's "180 amps" NOT "180ma" flowing in the cathode circuit!!

Considering that all 4 of the 20 ohm cathode resistors are 1/2 a watt each for a total cathode resistance of 5 ohms at "2 watts" and with 180 amps flowing though 5 ohms of cathode resistance, what do you think would be the "power dissipated" in the cathode circuit? You can figure that out rather easily too using the following formula:

P = Isqrd x R

or

180 x = x 5 = 162000

That's "162,000 watts". Divide that number by 4 and you will find that each 1/2 watt 20 ohm cathode resistor will dissipate 40,500 watts each.

What do you think would happen to those four 20 ohm 1/2 watt cathode resistors with each resistor attempting to dissipate 40,500 watts of heat a piece? They would be destroyed and the fuse in the 830 would more than likely blow!!

Why did you replace the 6146Bs with 6883B? What did you expect to achieve, more power out?

73
Mike W5RKL
www.w5rkl.com

On 10/23/2014 11:04 AM, w8sfc@... [TS-520_820_530_830] wrote:
>
> One of the tubes arced and I replaced it. The fuse blew so I replaced
> it with one I got from K4EAA. Also, I now see a hairline split in one
> of the cathode resistors I have replaced! Just about ready to send it
> off to be gone over! Getting rather tired of its antics!
> Sid W8SFC
>
>

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http://www.avast.com

49912. Re: [TS-520_820_530_830] Re: ts-830s REVAMP

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-24 02:10:57 UTC
From: Wes Will
Topic: 49904 Message: 49912

> Why did you replace the 6146Bs with 6883B? What did you expect to
> achieve, more power out?

He explained this in a follow-up. Not more power out at all. More money in. Pocket. 6146's have caught the eye of the scumbags on the internet who corner supplies and run up prices. 6883's aren't on anyone's radar yet for profiteering and they are still a few bucks each. Apparently the major difference is the filament wiring, and they are otherwise equivalent replacements for the standard 6146 normally seen.

(I can easily understand this motivation. Some of us just can't afford six full rigs in the shack, all running, with ten or a couple dozen more, unused for umpteen years though still in perfect working order, in boxes in the attic/basement. And novice Hams doing without or stuck with some Baofeng VHF/UHF handheld as the sum total of the gear in their "shack.")

--
Wes Will
SysAdmin
N9KDY

49913. Re: Build a DK-520 for the TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-24 01:43:08 UTC
From: junkmailsux@...
Topic: 49884 Message: 49913

I also need one other part. In another thread on this group, it's said to be available at Kenwood.

40-4711-03 470UH FERRI-INDUCTOR $1.23
http://www.kenwoodparts.com http://www.kenwoodparts.com

The 98 results I can narrow it down to skip right over that part number.

I also thought I had found it at PacParts for under $2 but it's discontinued there.
http://www.pacparts.com/part.cfm?part_no=L40-4711-03&mfg=Kenwood
http://www.pacparts.com/part.cfm?part_no=L40-4711-03&mfg=Kenwood
Is this just a wire wrapped ferrite? Does anyone have a pic or spec's?

Thanks
Chad
KK6DPE

49914. Re: [TS-520_820_530_830] Re: Build a DK-520 for the TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-24 02:41:45 UTC
From: Lou Blasco
Topic: 49884 Message: 49914

Hi Chad,

Don't worry so much about the brand name just find anything that's
470uH. At that value it is probably a bit bigger than a half watt
resistor. I don't know much about component suppliers in the US but I
imagine you could get them at most hobby outlets.

Try Mouser part No 542-78F471-RC

I made a board for the DK-520 using something similar.

Lou
VK3ALB

At 12:43 24/10/2014, you wrote:
>
>
>I also need one other part. In another thread on this group, it's
>said to be available at Kenwood.
>
>40-4711-03 470UH FERRI-INDUCTOR $1.23
><http://www.kenwoodparts.com>http://www.kenwoodparts.com
>
>The 98 results I can narrow it down to skip right over that part number.
>
>I also thought I had found it at PacParts for under $2 but it's
>discontinued there.
><http://www.pacparts.com/part.cfm?part_no=L40-4711-03&mfg=Kenwood>http://www.pacparts.com
/part.cfm?part_no=L40-4711-03&mfg=Kenwood
>
>
>Is this just a wire wrapped ferrite? Does anyone have a pic or spec's?
>
>Thanks
>Chad
>KK6DPE

49915. Re: [TS-520_820_530_830] Re: ts-830s REVAMP

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-24 02:46:22 UTC
From: W5RKL
Topic: 49904 Message: 49915

I could have missed it but I don't think he said where he got the 6883Bs. He did say he had more coming when he attends the Georgetown Ohio ham fest.

I stopped buying vacuum tubes at ham fest a number of years ago. I buy all my tubes from vacuumtubes.net. The 6146As in my HW-101, SB-400, SB-401, and SB-100 were all purchased from vacuumtubes.net 4 years ago and they are still producing full output.

I would recommend he purchase the 6883Bs from a reliable vendor that guarantees the tubes. The online tube store I use, vacuumtubes.net, sell 6883Bs for $16 each and they guarantee their tubes for 30 days.

www.vacuumtubes.net

I agree, there are sellers who are selling 6146B "Matched pairs" for high prices but the final amplifier in the KW hybrid doesn't require matched pair of 6146Bs.

Also, if operators tune up to full output and if they operate CW, lower the power to about 85 watts and don't push the audio for higher power output on sideband, the final tubes would last a lot longer. Also, don't stack other ham gear along each side and on top of the KW hybrid. I see a lot of station pictures showing the transceiver on the bottom and in the middle with other ham gear stacked along each side and on top. I wonder how long it's going to take before that transceiver overheats and fails???

73
Mike W5RKL
www.w5rkl.com

On 10/23/2014 9:10 PM, Wes Will wwill@...
[TS-520_820_530_830] wrote:
>
> > Why did you replace the 6146Bs with 6883B? What did you expect to
> > achieve, more power out?
>
> He explained this in a follow-up. Not more power out at all. More
> money in. Pocket. 6146's have caught the eye of the scumbags on the
> internet who corner supplies and run up prices. 6883's aren't on
> anyone's radar yet for profiteering and they are still a few bucks each.
> Apparently the major difference is the filament wiring, and they are
> otherwise equivalent replacements for the standard 6146 normally seen.
>
> (I can easily understand this motivation. Some of us just can't afford
> six full rigs in the shack, all running, with ten or a couple dozen

> more, unused for umpteen years though still in perfect working order, in
> boxes in the attic/basement. And novice Hams doing without or stuck
> with some Baofeng VHF/UHF handheld as the sum total of the gear in their
> "shack.")
>
> --
> Wes Will
> SysAdmin
> N9KDY
>
>

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http://www.avast.com

49916. KNWD PS-30

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-24 03:58:36 UTC
From: k7mks@...
Topic: 49916 Message: 49916

If you have a PS-30 I'd appreciate knowing the "no load" DC voltage from the PS-30. Just measure the DC voltage at the end of the unconnected PS-30's power supply cable. I"m having concerns with my PS-30.

Thank you

Joe k7mks

49917. Re: [TS-520_820_530_830] KNWD PS-30

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-24 04:31:45 UTC
From: Lou Blasco
Topic: 49916 Message: 49917

Joe,

More information please? What do you read and why are you concerned?

Mine reads 14.2V at the radio with radio off
dropping to 14.0V with radio on and 13.3V with 100W carrier.

Regards

Lou
VK3ALB

At 14:58 24/10/2014, you wrote:
>
>
>If you have a PS-30 I'd appreciate knowing the
>"no load" DC voltage from the PS-30. Just
>measure the DC voltage at the end of the
>unconnected PS-30's power supply cable. I"m having concerns with my PS-30.
>
>Thank you
>
>Joe k7mks
>

49918. IF board for a TS 820

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-24 14:30:24 UTC
From: lynn091@...
Topic: 49918 Message: 49918

Good morning, I would like to purchase transformer T5 or T6 that goes in a IF board for a TS 820, or a defective board so that I can salvage the part. The transformer I have is open and I have no 13.5 v to Q1. I would consider a good board but not at the going prices.
Thanks
Lynn
kb5by

49919. Re: ts-830s REVAMP

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-24 17:32:11 UTC
From: wallydoc@...
Topic: 49904 Message: 49919

Sid: Suggestion>>>
Have you checked the voltages at the screen grid (SG) and all the other voltages on the final board?
Ohms from cathode to ground also. (already mentioned to be 5 ohms)
Compare these voltages to the Manual.
You can do this without the tubes in the unit.
Maybe this will help find the problem.
Please let us know.
Wally KC9INK

49920. TS-830s with External Transmitter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-24 23:36:12 UTC
From: bb_62_nj@...
Topic: 49920 Message: 49920

I just purchased a mint Heathkit HX-10 Marauder (2x6146B). This thing is built like a battleship, so the plan here is to use it as the transmitter for digital modes (and maybe some AM) while using the TS-830 as the receiver. I want to keep some strain off the Kenwood power transformer and output stages.

The question I have, running about 70-90 watts out, is shorting TS-830 antenna jack to ground enough protection? If not, any recommendations would be appreciated. Both rigs have their full metal cabinets, all antenna runs are coax. Rigs will be grounded together.

Thanks,

Bob WA2JAJ/4

49921. Re: [TS-520_820_530_830] TS-830s with External Transmitter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-25 00:02:51 UTC
From: Craig Roberts
Topic: 49920 Message: 49921

Hmmm. Running digital modes at full output will be detrimental to any transmitter regardless of the threat to your non-isolated receiver's front end. All you need is about 30 or 40 watts output on digital at most. Running full bore will blow your finals and give your listeners a distorted signal (briefly).

Congrats on the beautiful old machine from Benton Harbor, though.

73,

Craig
W3CRR

On October 24, 2014, at 19:36, "bb_62_nj@yahoo.com [TS-520_820_530_830]" wrote:

I just purchased a mint Heathkit HX-10 Marauder (2x6146B). This thing is built like a battleship, so the plan here is to use it as the transmitter for digital modes (and maybe some AM) while using the TS-830 as the receiver. I want to keep some strain off the Kenwood power transformer and output stages.

The question I have, running about 70-90 watts out, is shorting TS-830 antenna jack to ground enough protection? If not, any recommendations would be appreciated. Both rigs have their full metal cabinets, all antenna runs are coax. Rigs will be grounded together.

Thanks,

Bob WA2JAJ/4

49922. Re: [TS-520_820_530_830] TS-830s with External Transmitter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-25 00:08:50 UTC
From: W5RKL
Topic: 49920 Message: 49922

Bob,

Running 70 to 90 watts out with the Marauder is okay on CW and sideband but it's NOT okay for AM!! AM power should be kept to no more than 100ma or 25 watts carrier. The Marauder's AM is in "LSB" ONLY and it's NOT plate modulated AM.

If you are running digital modes then I recommend you keep power output down to between 20 and 30 watts.

The weak link in the Marauder is the power transformer!! There are hundreds of Marauder HX-10s out there with blown power transformers. Some hams have changed the power supplies to solid state power supplies, thinking that will help keep the heat in the power transformer down. Not true plus the 5R4GY rectifier tubes have a voltage drop across the tubes that is higher than the .7VDC a solid state diode has. If you solid state the power supplies, the result in a much higher DC voltage applied to the circuits which can easily cause problems and/or damage components.

I have a Marauder HX-10. I run it on CW most of the time using an SB-303 solid state receiver through a simple 120VAC DPDT relay for antenna switching and receiver muting.

If you do not have the full manual for the Marauder I highly recommend you spend the money and buy one!!! You also should ensure the traps are adjusted properly (see the manual for details).

The original final amplifier cooling fan is, in my opinion, insufficient to keep the final amplifier cool. I removed the one in my Marauder, made a new cover out of perforated aluminum found at hardware stores, and mounted a 120VAC muffin fan on top, blowing air down into the final cage. Yes I've been told that blowing air into the amplifier will result in dust build up. I have NOT experienced this problem plus I keep the final amplifier cleaned every so often so dust doesn't build up.

I'm sure you have notice the weight of the Marauder, approximately 85 pounds. You will need a desk to support at least 150 pounds to ensure the other gear sitting next to the Marauder doesn't cause the desk to collapse. I built a simple desk out of 5/8" plywood and 2x4s. Cost to build the desk, about $15 depending on the cost of the plywood. The desk will hold up to 350 pounds without any problem.

73
Mike W5RKL
www.w5rkl.com

On 10/24/2014 6:36 PM, bb_62_nj@... [TS-520_820_530_830] wrote:
>
> I just purchased a mint Heathkit HX-10 Marauder (2x6146B). This thing
> is built like a battleship, so the plan here is to use it as the
> transmitter for digital modes (and maybe some AM) while using the
> TS-830 as the receiver. I want to keep some strain off the Kenwood
> power transformer and output stages.
>
>
> The question I have, running about 70-90 watts out, is shorting TS-830
> antenna jack to ground enough protection? If not, any recommendations
> would be appreciated. Both rigs have their full metal cabinets, all
> antenna runs are coax. Rigs will be grounded together.
>
>
> Thanks,
>
>
> Bob WA2JAJ/4
>
>

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http://www.avast.com

49923. Re: TS-830s with External Transmitter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-25 00:22:33 UTC
From: pmarkavage@...
Topic: 49920 Message: 49923

You said: 0 Attachment

"I just purchased a mint Heathkit HX-10 Marauder (2x6146B). This thing is built like a battleship, so the plan here is to use it as the transmitter for digital modes (and maybe some AM) while using the TS-830 as the receiver. I want to keep some strain off the Kenwood power transformer and output stages."

Thanks,

Bob WA2JAJ/4

The Kenwood TS-830S, as is, does not have an AM detector for AM reception.

Pete, wa2cwa

49924. Re: [TS-520_820_530_830] TS-830s with External Transmitter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-25 03:23:07 UTC
From: W5RKL
Topic: 49920 Message: 49924

I agree Craig. The final amplifier in the Marauder HX-10 is NOT designed for full continuous RF output.

Bob,

Just because a transmitter has a fan doesn't mean it can withstand full RF output such as AM, digital modes such as PSK, AMTOR, and FSK modes on a continuous basis. While the transmitter has FSK and AM modes, the power supply and final amplifier are not designed for continuous full RF output using those Modes!

The Marauder's FSK mode is actually true "Frequency Shift Keying" which mean the rear panel' "FSK" socket, when connected to a switching keyboard or RTTY keying circuit, actually shifts the Marauder's "RF Carrier" between Mark and Space, not some sound card Audio Frequency Shift Keying (AFSK) audio tones.

If you are going to use the TS-830 as a companion receiver to the Marauder HX-10 transmitter, I don't recommend that. There are plenty of other receivers that would be a better choice. Drake R4A, R4B, the Heathkit SB-300, SB-301, SB-303 and the Kenwood R599 are just a few examples of separate receivers that would work well with the Marauder. You will need a antenna switch and receiver muting relay circuit regardless of the receiver you use. You will need an enclosure to house the switching and muting relay along with the 3 SO-239s you will need to connect the receiver, transmitter, and antenna together.

By the way, the Marauder HX-10 works best with "6146As" not "6146Bs". You can purchase 6146As from the following link

www.vacuumtubes.net

for $22 each. You will have a difficult time neutralizing the Marauder if you use 6146Bs. I run 6146As in my Marauder and they work very well.

You should take the time and read the manual then perform a check of the transmitter's alignment. If the current alignment state of the transmitter requires adjustments, follow the instructions in the manual. A word of caution. Do NOT disconnect the final tube plate voltage then leave the final tube screen voltage applied then switch to transmit. The screens of the final tubes now become the plate and excessive screen current will flow in the screen circuit destroying the final tubes. The normal screen current in a 6146 is 12.5ma and this maximum level can easily be exceeded if you disconnect the final tube plate voltage but leave the screen voltage applied to the tubes in transmit!!

73
Mike W5RKL
www.w5rkl.com

On 10/24/2014 7:02 PM, Craig Roberts crgrbrts@...
[TS-520_820_530_830] wrote:
>
> Hmmm. Running digital modes at full output will be detrimental to any
> transmitter regardless of the threat to your non-isolated receiver's
> front end. All you need is about 30 or 40 watts output on digital at
> most. Running full bore will blow your finals and give your listeners
> a distorted signal (briefly).
>
> Congrats on the beautiful old machine from Benton Harbor, though.
>
> 73,
>
> Craig
> W3CRR
>
> On October 24, 2014, at 19:36, "bb_62_nj@...
> [TS-520_820_530_830]" wrote:
>
> I just purchased a mint Heathkit HX-10 Marauder (2x6146B). This thing
> is built like a battleship, so the plan here is to use it as the
> transmitter for digital modes (and maybe some AM) while using the
> TS-830 as the receiver. I want to keep some strain off the Kenwood
> power transformer and output stages.
>
>
> The question I have, running about 70-90 watts out, is shorting TS-830
> antenna jack to ground enough protection? If not, any recommendations
> would be appreciated. Both rigs have their full metal cabinets, all
> antenna runs are coax. Rigs will be grounded together.
>
>
> Thanks,
>
>
> Bob WA2JAJ/4
>
>

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http://www.avast.com

49925. Re: [TS-520_820_530_830] Re: ts-830s REVAMP

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-25 03:37:59 UTC
From: w8sfc@...
Topic: 49904 Message: 49925

I ONCE bought a pair of 6146b's from Penta Labs and guess what? Arced upon startup. Fine print "Made in China". Last 6146bs I ever bought. None from Dayton, either! I will certainly check that tube site out, But I am also thinking (no, going to) do the arc over mod. I just love this ol' rig so I am obligated. Right after I get some more cathode resistors AND a good set of tubes, the mod will be done! Tnx to all! 73
Sid W8SFC

49926. Re: [TS-520_820_530_830] Re: Build a DK-520 for the TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-25 04:27:13 UTC
From: James Scribner
Topic: 49884 Message: 49926

Chad,
Have not dealt with this outfit personally but seems from the site
something could be matched up.

http://www.coilcraft.com/apps/finder/finder.cfm?mode=post&frequency=500&l=470&core=any?cy=USD&quantity=1000&frequency_unit=khz&L_unit=uH&length_unit=mm&width_unit=mm&width=&length=&utm_source=Inductance+Page&utm_medium=Search+engines&utm_campaign=Inductance+terms&radio_mount=leaded&height=&height_unit=mm&acurrent=&acurrent_unit=amp&dcr=&dcr_unit=ohms&L_search=nominal&showimages=yes#

They also have an email to correspond with. I did not see phone.

73
W5SWM-Jim

49927. Re: [TS-520_820_530_830] Re: ts-830s REVAMP

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-25 05:53:43 UTC
From: Ron
Topic: 49904 Message: 49927

Just curious what changes have to be made to use the 6883b tubes

Ron KK4PWF

On Oct 23, 2014, at 11:47 AM, "w8sfc@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

>
>
> I no longer have any 6146B tubes. When I got it it had an original S2001A and a 6146A, so I got rid of then. 6146B tubes are at a premium and 6883B tubes are rather inexpensive. I have more coming when I attend the Georgetown OH hamfest on Nov 1.
>
>

49928. Re: [TS-520_820_530_830] Re: ts-830s REVAMP

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-25 11:08:03 UTC
From: wagstw46@...
Topic: 49904 Message: 49928

Sid

If I were you I would pull the Final tubes and then measure the Cut Off bias voltage in Rx mode and the Operating bias voltage in Tx mode at the tube socket control grid pin 5 on the final board. Run the bias pot thru its range and make sure you have good smooth control of the Operating bias voltage. Make sure the anode caps and parasitic suppressors are not touching anything in the PA cage as will be energized at 900vdc.

Mike is correct that typical arc over occurs from Anode to Cathode (beam forming plates) violently blowing the cathode meter shunt resistors, but you can also experience more rarely arc over from Anode to Screen Grid and to the Control grid. I have had 2 or 3 TS-830s come across bench with significant damage to the FG line and associated components all the way back to -C supply. If it arcs to the Control grid heavy current will take path on the FG line back to the Audio board. It may burn up the Bias Voltage adjust pot on its way back to -C supply return.

After you replace the four 20 ohm meter shunt resistors and with no finals tubes in the sockets suggest you verify proper cutoff bias and operating bias voltage at Pin 5. I would also clean the bias voltage adjust pot and set the voltage at Pin 5 to approx -60vdc in Tx mode.

There are two common ways to hurt final tubes. One is anode arc over and other is thermal runaway due to loss of bias voltage. You say you cant set the zero signal plate current and it pegs out. That is not a problem with screen grid voltage. I would look closely at bias voltage.

Terry K9TW

49929. Re: [TS-520_820_530_830] KNWD PS-30

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-25 15:53:06 UTC
From: k7mks@...
Topic: 49916 Message: 49929

Lou: Thanks for your reply. I found a PS-30 in a scrap sale and unloaded voltage was close to 14.6 VDC. It would not adjust to 13.6 as I thought it should. I finally noticed in the manual that unloaded VDC was normal under 16 and would come down when a load was applied.

Your figures follow what mine is doling and I thank you for taking the measurements.

73 joe k7mks

----- Original Message -----

From: "530, TS-520" <TS-520_820_530_830@yahoogroups.com>
To: "530, TS-520" <TS-520_820_530_830@yahoogroups.com>
Sent: Thursday, October 23, 2014 9:31:45 PM
Subject: Re: [TS-520_820_530_830] KNWD PS-30

Joe,

More information please? What do you read and why are you concerned?

Mine reads 14.2V at the radio with radio off dropping to 14.0V with radio on and 13.3V with 100W carrier.

Regards

Lou
VK3ALB

At 14:58 24/10/2014, you wrote:

If you have a PS-30 I'd appreciate knowing the "no load" DC voltage from the PS-30. Just measure the DC voltage at the end of the unconnected PS-30's power supply cable. I"m having concerns with my PS-30.

Thank you

Joe k7mks

49930. Re: [TS-520_820_530_830] TS-830s with External Transmitter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-25 17:02:37 UTC
From: Bob
Topic: 49920 Message: 49930

Many thanks to all responders. Having run the TS-830 with digital and RTTY, I am aware of the power limits of the 6146's. I plead temporary senility on that one. As for the TS-830 for the receiver for the Marauder, the points are very valid and I will now probably use my in-storage Hammarlund HQ-170a instead.

Have Marauder manual, and, rig was purchased from a "restorer" so hopefully alignment, neutralization, etc., will check out ok.

I will look to see whether the 6146s are "A" or "B"

I was hoping to save the space, and use the more stable TS-830 receiver, but I do have somewhere a digital readout for the Hammarlund. and maybe I can find some mods to improve the stability. Marauder, like Hallicrafters SX-101, leaves the VFO filament on when plugged in.

Again, thanks to all

Bob WA2JAJ/4

49931. TS-530s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-25 19:33:57 UTC
From: John
Topic: 12415 Message: 49931

Just wondering if there would be any interest in my TS-530s before I put
it on a popular auction site?
Having had prices to repair/service the radio, I thinking of getting a
more modern radio instead.
The radio is not without its issues. RX fine, but no TX ☐ No Mic, band
selector out of sync with Plate selector.
Valves have been checked/replaced with known good ones and swapped back
and no joy in TXing.

Located UK .

Cheers

John
M6JPE

49932. Re: TS-530s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-26 14:20:56 UTC
From: Billy Bob
Topic: 12415 Message: 49932

what are you looking to get.Bill WD8OSJ

49933. Re: [TS-520_820_530_830] TS-530s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-25 23:13:26 UTC
From: CROOKS David
Topic: 12415 Message: 49933

Hi Moderators,
Would you kindly remind the group to include price with adverts.
Thanks
Dave f4eyk

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http://www.avast.com

49934. FS: Kenwood VFO-820

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-27 16:25:30 UTC
From: nesseca@...
Topic: 49934 Message: 49934

I wanted to give you guys first dibs on a Kenwood VFO-820 that I don't really need. I purchased it from an auction site and it is in very good shape. I'm selling it for $75 plus $15 shipping. It includes the VFO cable. If you'd like some pictures just let me know. Paypal only.

Craig
W4CNA

49935. Re: [TS-520_820_530_830] FS: Kenwood VFO-820

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-27 19:15:25 UTC
From: David Boothe
Topic: 49934 Message: 49935

Craig,
I'm interested. Assume everything works. Would you mind sending some pictures?
Thanks!
Dave
KC3CIP

Sent from my iPhone

> On Oct 27, 2014, at 12:25 PM, "nesseca@... [TS-520_820_530_830]"
<TS-520_820_530_830@yahoogroups.com> wrote:
>
> I wanted to give you guys first dibs on a Kenwood VFO-820 that I don't really need. I purchased it from an auction site and it is in very good shape. I'm selling it for $75 plus $15 shipping. It includes the VFO cable. If you'd like some pictures just let me know. Paypal only.
>
> Craig
> W4CNA
>
>
>
>

49936. Re: Build a DK-520 for the TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-27 19:55:12 UTC
From: tjb813@...
Topic: 49884 Message: 49936

Be sure to use high quality shielded cable for the connection of the DG-5 to the modified TS520. Keep the cables to less than 18 inches.

49937. Re: Build a DK-520 for the TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-28 16:46:30 UTC
From: w5rkl@...
Topic: 49884 Message: 49937

I've used short lengths of RG-174 coax cable with RCA plugs on both ends as well as the Yellow Video cables found in VCR/DVR/DVD player/recorders, both without any problems.

73
Mike W5RKL
W5RKL http://www.w5rkl.com

W5RKL http://www.w5rkl.com Welcome to my Amateur Radio website. 73 Mike W5RKL email: w5rkl@yahoo.com

View on www.w5rkl.com http://www.w5rkl.com
Preview by Yahoo

49938. TS-530 10M concern

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-29 21:09:47 UTC
From: k7mks@...
Topic: 49938 Message: 49938

A local ham has a TS-530 w/ an interesting problem with low power output of 40-50 or so and no ALC meter reading when the band switch is on 28 and yet everything seems to be OK when the bandswitch is set to 24.5 and 29. Gently moving the BS a bit, while on 28, has no effect on the PO or zero ALC meter reading. I can get an ALC reading by very slight rotation of the Plate tuning but PO remains essentially the same at 40-50. The finals do need to have neutralization touched up.

I am beginning to suspect the 28 position on the BS may have a defective switch contact on one or more switch wafers when 28 is selected. Comments will be greatly appreciated.

joe k7mks

the finals do need to have neutralization toucvhjed up.

49939. RE: [TS-520_820_530_830] TS-530 10M concern

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-30 08:12:08 UTC
From: fpath fpath
Topic: 49938 Message: 49939

Joe,

Sounds like the band switch wafer may be slightly loose, most common problem wafer to the last one closest to the final tank. Using very good light have a look at this wafer and as you turn band switch through range watch and see if the fingers move, this could indicate bad rivet. However, the other issue is has the radio been modified for 11m? Report back and we can go forward

73s

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
CC: kg7ofi@...
From: TS-520_820_530_830@yahoogroups.com
Date: Wed, 29 Oct 2014 21:09:47 +0000
Subject: [TS-520_820_530_830] TS-530 10M concern

A local ham has a TS-530 w/ an interesting problem with low power output of 40-50 or so and no ALC meter reading when the band switch is on 28 and yet everything seems to be OK when the bandswitch is set to 24.5 and 29. Gently moving the BS a bit, while on 28, has no effect on the PO or zero ALC meter reading. I can get an ALC reading by very slight rotation of the Plate tuning but PO remains essentially the same at 40-50. The finals do need to have neutralization touched up.

I am beginning to suspect the 28 position on the BS may have a defective switch contact on one or more switch wafers when 28 is selected. Comments will be greatly appreciated.

joe k7mks

the finals do need to have neutralization toucvhjed up.

49940. CB Conversion

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-30 14:57:55 UTC
From: k7mks@...
Topic: 49940 Message: 49940

What physical changes would normally be noticed if a TS-530 was converted to CB use on the 28 bandswitch position? A new ham may have accidentally purchased such a unit and we'd like to get it back where it belongs!

Thanks joe k7mks

49941. Re: [TS-520_820_530_830] CB Conversion

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-30 16:01:51 UTC
From: Mike W5RKL
Topic: 49940 Message: 49941

Joe,

What gives you and/or your friend the impression the TS-530 might have
been modified to operate on 11 meters?

73
Mike W5RKL
www.w5rkl.com

On 10/30/2014 9:57 AM, k7mks@... [TS-520_820_530_830] wrote:
> What physical changes would normally be noticed if a TS-530 was
> converted to CB use on the 28 bandswitch position? A new ham may have
> accidentally purchased such a unit and we'd like to get it back where
> it belongs!
>
> Thanks joe k7mks
>

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49942. RE: [TS-520_820_530_830] TS-530 10M concern

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-30 15:27:37 UTC
From: Tom Bauer
Topic: 49938 Message: 49942

Dave and Joe,

I have a TS830 with the exact same issue.

I'll be watching for a solution, other than an expensive restoration.

Contact cleaner on the band switch gave me intermittent ALC and PO. I'll double check the end wafer. Could it be a dirty relay?

Many thanks!

Tom KE0ABA

From: TS-520_820_530_830@yahoogroups.com
[mailto:TS-520_820_530_830@yahoogroups.com]
Sent: Thursday, October 30, 2014 3:12 AM
To: TS-520_820_530_830@yahoogroups.com
Subject: RE: [TS-520_820_530_830] TS-530 10M concern

Joe,

Sounds like the band switch wafer may be slightly loose, most common problem wafer to the last one closest to the final tank. Using very good light have a look at this wafer and as you turn band switch through range watch and see if the fingers move, this could indicate bad rivet. However, the other issue is has the radio been modified for 11m? Report back and we can go forward

73s
Dave
VK5PDL

To: TS-520_820_530_830@yahoogroups.com
<mailto:TS-520_820_530_830@yahoogroups.com>
CC: kg7ofi@... <mailto:kg7ofi@...>
From: TS-520_820_530_830@yahoogroups.com
<mailto:TS-520_820_530_830@yahoogroups.com>
Date: Wed, 29 Oct 2014 21:09:47 +0000
Subject: [TS-520_820_530_830] TS-530 10M concern

A local ham has a TS-530 w/ an interesting problem with low power output of 40-50 or so and no ALC meter reading when the band switch is on 28 and yet everything seems to be OK when the bandswitch is set to 24.5 and 29. Gently moving the BS a bit, while on 28, has no effect on the PO or zero ALC meter reading. I can get an ALC reading by very slight rotation of the Plate tuning but PO remains essentially the same at 40-50. The finals do need to

have neutralization touched up.

I am beginning to suspect the 28 position on the BS may have a defective switch contact on one or more switch wafers when 28 is selected. Comments will be greatly appreciated.

joe k7mks

the finals do need to have neutralization toucvhjed up.

49943. TS-530S digital display issue

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-30 15:53:47 UTC
From: mahopkins78@...
Topic: 49943 Message: 49943

All:
My ts-530 display has one digit not displaying on Freq counter. Have taken the board out and cleaned a with contact cleaner and all connections still look good. Have a a couple of links to repair people that rehab these radios, but that i my last resort. Any suggestions?

Mark

49944. Re: [TS-520_820_530_830] CB Conversion

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-30 20:28:27 UTC
From: Craig Roberts
Topic: 49940 Message: 49944

> What gives you and/or your friend the impression the TS-530 might
> have been modified to operate on 11 meters?
>

Cuz every time his friend calls CQ, the answer is "Hey there, good buddy!"

73,

Craig
W3CRR

49945. Re: [TS-520_820_530_830] CB Conversion

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-30 20:32:12 UTC
From: richard radke
Topic: 49940 Message: 49945

Good one Craig…TNX fer the chuckle on a gloomy day

Rick
W9WS

> On Oct 30, 2014, at 3:28 PM, Craig Roberts crgrbrts@... [TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com> wrote:
>
>
>> What gives you and/or your friend the impression the TS-530 might have been modified to operate on 11 meters?
>>
>
> Cuz every time his friend calls CQ, the answer is "Hey there, good buddy!"
>
> 73,
>
> Craig
> W3CRR
>
>
>

49946. Re: CB Conversion

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-30 22:28:46 UTC
From: wallydoc@...
Topic: 49940 Message: 49946

Here is a copy of the instructions to convert a 530 to CB Band.
Should be easy to reverse.
Sorry I do not have the pics, however they are available somewhere probably in CB Tricks>>>>
ten four, good buddy, see you on 32 down...
Wally KC9INK

This simple modification changes the 29Mhz band to give you full operation in the 27Mhz band. The band selector will be set to 29 and the +0.5 switch will be off or on to give 27 or 27.5 MHz. The display will correctly read the frequency on the 27Mhz band.

Remove the top cover. Locate the counter pcb (centre front). We will modify the diode matrix to give new BCD PLL divider codes and BCD display codes to give us the 27Mhz band. There is no need to remove the pcb as all the work can be carried out on the component side with the board in situ.

Cut the cathode of D26 or remove D26 entirely.
Take 2 IN4148 diodes and twist their cathodes together and solder. Trim this twisted end and solder on to the pcb where D26 cathode was connected. We will refer to these two new diodes as D901 and D902.

Take a short piece of hookup wire and connect to the anode of D901, using a rubber sleeve to insulate the connection. Connect the other end of the wire to the anode of D49.

Now trim the leg of D902 slightly, bend it over and down and solder it to the anode of D25.

Next Cut D35 and D34 cathodes, leaving enough wire on the diodes cathodes to solder to. The two diodes are side by side. Take a piece of hookup wire and remove enough insulation so that you can solder it to both D34 and D35 at once, bridging the cathodes together. Connect the other end of the wire to the cathode of D50.

The RF board coils for the 28/29 bands may need slight adjusting, these are L12,L21 and L31. This step is optional and may make the radio perform slightly better on 27Mhz. I did not do any tweaking myself and was able to get 120W on 27.500. RX sensitivity did not seem to be affected by the mod.

49947. Re: TS-530S digital display issue

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-30 23:15:26 UTC
From: wallydoc@...
Topic: 49943 Message: 49947

Mark, could be the Indicator digit driver Q11 or the resistor block RB3 that connects it to the readout tube. Possibly that digit is not being "turned on".
If you have a scope you should see a square wave blip on each of the driver's output pins 10--15.
You should see the same blip at the resistor and then the tube assembly.
Hopefully the problem is not in the readout tube.
Please look at the schematic and circuit explanation in the service manual.
If you do not have a scope, try resoldering the connections on the board and measuring the respective resistor in the RB3 resistor block.Maybe you will get lucky and its just bad solder joint or one bad resistor.
Wally KC9INK

49948. Re: [TS-520_820_530_830] CB Conversion

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-31 03:13:06 UTC
From: k7mks@...
Topic: 49940 Message: 49948

Mike: I was shooting in the dark. My friends TS-530S from Ebay seems to work OK on all bands except 28 where power output is 40-50 and no ALC reading unless I detune the Drive. I also want to neutralize the set as it if off. 24.5 and 29 seems to be OK. I've tweaked the 10 Driver plate and it was right on.

He purchased another radio and I suspect he will return this -530S to the Ebay seller.

Thanks for your reply earlier.

73 joe k7mks
----- Original Message -----

From: "530, TS-520" <TS-520_820_530_830@yahoogroups.com>
To: "530, TS-520" <TS-520_820_530_830@yahoogroups.com>
Sent: Thursday, October 30, 2014 9:01:51 AM
Subject: Re: [TS-520_820_530_830] CB Conversion

Joe,

What gives you and/or your friend the impression the TS-530 might have been modified to operate on 11 meters?

73
Mike W5RKL
www.w5rkl.com

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49949. Re: [TS-520_820_530_830] CB Conversion

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-31 13:33:23 UTC
From: Mike W5RKL
Topic: 49940 Message: 49949

Joe,

I mean no disrespect but "Shooting in the dark" is the same as "guessing". Loss of ALC is not always an indication of an 11 meter modification. Loss of ALC can be caused by the Rectifier Unit's R15 (56K 1/2W) resistor used in TUNE model which would be evident on all bands not just one band. A weak driver tube can also result in loss of ALC. Loss of ALC is typically not caused by weak final tubes or the rear panel's SG switch being placed in the OFF position.

73
Mike W5RKL
www.w5rkl.com

On 10/30/2014 10:13 PM, k7mks@... [TS-520_820_530_830] wrote:
> Mike: I was shooting in the dark. My friends TS-530S from Ebay
> seems to work OK on all bands except 28 where power output is 40-50
> and no ALC reading unless I detune the Drive. I also want to
> neutralize the set as it if off. 24.5 and 29 seems to be OK. I've
> tweaked the 10 Driver plate and it was right on.
>
> He purchased another radio and I suspect he will return this -530S to
> the Ebay seller.
>
> Thanks for your reply earlier.
>
> 73 joe k7mks

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49950. Re: [TS-520_820_530_830] CB Conversion

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-31 16:59:09 UTC
From: k7mks@...
Topic: 49940 Message: 49950

I never inferred that a CB mod had been done. I was merely seeking comments of what to look for in case a mod had been done.

The unit has ALC and 90-100W PO on all bands except 28 which is the only band with no ALC and low power output so whatever is causing the problem is doing it on the this band only. If I had measurable ALC then power output should increase over the 150 ma Ip which I'm seeing for that band.

The 28 driver plate coil peaks nicely and I've eliminated that as the cause. I'm beginning to think that there may be a loose or cold solder joint on the 28 position of the bandswitch. Later today I plan to take a RF probe and try to locate where RF is low on 28 and OK on the two adjacent bands.

No disrespect was taken - I appreciated your comments.

Joe k7mks

To: "530, TS-520" <TS-520_820_530_830@yahoogroups.com>
Sent: Friday, October 31, 2014 6:33:23 AM
Subject: Re: [TS-520_820_530_830] CB Conversion

Joe,

I mean no disrespect but "Shooting in the dark" is the same as "guessing". Loss of ALC is not always an indication of an 11 meter modification. Loss of ALC can be caused by the Rectifier Unit's R15 (56K 1/2W) resistor used in TUNE model which would be evident on all bands not just one band. A weak driver tube can also result in loss of ALC. Loss of ALC is typically not caused by weak final tubes or the rear panel's SG switch being placed in the OFF position.

73
Mike W5RKL
www.w5rkl.com

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49951. TS-530 concefrns

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-31 17:10:48 UTC
From: k7mks@...
Topic: 49951 Message: 49951

I apologize to the group for erroneously misdirecting my previous post; it should have gone direct.

Joe k7mks

49952. Re: [TS-520_820_530_830] TS-530 concefrns

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-31 17:58:50 UTC
From: Mike W5RKL
Topic: 49951 Message: 49952

No harm done Joe.

73
Mike W5RKL
www.w5rkl.com

On 10/31/2014 12:10 PM, k7mks@... [TS-520_820_530_830] wrote:
> I apologize to the group for erroneously misdirecting my previous
> post; it should have gone direct.
>
> Joe k7mks
>

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http://www.avast.com

49953. Re: [TS-520_820_530_830] CB Conversion

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-10-31 22:06:30 UTC
From: wagstw46@...
Topic: 49940 Message: 49953

Are you saying with the rig in CW mode and the Screen Grid switch off you can peak the ALC reading with the 10 meter drive coil (orange)? What is your definition of "nicely"? Where do you have to set the CAR Level pot? Where does the ALC indication deflect to?

If you have good ALC indication when peaking the Drive coil on 28 mhz bandswitch position then you cant have a bad rivet connection on the S1-6 wafer. The fact that you can get a good peak tells you that the parallel resonant tuned circuit that is being switched in between the Driver tube plate and the 6146 control grids is being seen electrically as evidenced by peak in RF voltage. This is what the tuned circuit does for you. It gives you maximum RF voltage swing at control grids of finals. My definition of good is RF voltage greater than 46 volts with the Car Level pot no greater than 1200 position. Also, the ALC indication should hold and not slowly drift lower during key down. You may not be able to get full scale meter deflection but should be able to get close to 3/4 scale. I am talking about the meter range and not the black printed ALC scale that means nothing unless you are modulating the rig. On all other bands should get full scale deflection with Car Level pot no more than #3 to #4 position.

Using RF probe or O-scope and running the TX Level Diagram is best and fastest way to troubleshoot low RF drive and/or low RF output.

You will need a 3 diode probe to measure RF drive voltage at the plate of the Driver Tube or the DRV terminal on the Final board or Pin 5 of the 6146 finals. A single diode probe is only good for approx 30 rms rf volts. Above that you will burn out the diode.

Assuming you have the zero signal plate current set to 60ma then you will have approx -65vdc operating bias voltage on the 6146 control grids. This means that to get the grid to go positive with respect to the cathode you will need to overcome this DC offset below the zero axis. You need the grid to go positive with respect to the cathode in order to have grid current which in turn will result in ALC action which will reduce the ALC bus voltage and drive the ALC meter indication up scale. For that to occur you need no less than approx 47 rms rf volts at finals control grid. 47 x 1.414= 66.5 peak rf volts. This means control grid will be approx 1.5 volts positive with respect to cathode. Anything less than approx 47 rms rf volts means NO ALC indication. You will still have RF output power just no ALC indication.

Terry K9TW

49954. Re: Build a DK-520 for the TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-01 02:10:35 UTC
From: junkmailsux@...
Topic: 49884 Message: 49954

Thanks all! I've saved the links and I think I'm off to a good start. It'll take a LONG time to me to save up for this but I will let you all know when it's done. If I get it done.

Chad
KK6DPE

49955. 37.995MHz Crystal??

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-01 02:18:32 UTC
From: junkmailsux@...
Topic: 49955 Message: 49955

Just a shot in the dark.
I've got a Kenwood TS-520 that was given to me for a website design. Unfortunately, some yutz tried to change it to 11M and I think they screwed it up. The radio won't tune on any of the 10M sections. The 37.995MHz crystal is missing but I can't afford $30 for a crystal so I thought I'd ask if anyone had one that they didn't need. Fingers are crossed but I'm not holding my breath. LOL

TKX
Chad
KK6DPE

49956. Re: 37.995MHz Crystal??

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-01 12:52:09 UTC
From: w5rkl@...
Topic: 49955 Message: 49956

Chad,

Have you checked the other two 10 meter HET OSC crystals to ensure they are the correct ham band 10 meter crystals?

28 = 36.895Mhz
28.5 = 37.395Mhz

The 37.995Mhz HET OSC crystal is for 29.1Mhz.

Write Bob Mansker, KE5FTF, an email, ke5ftf at mail dot com, he may have the crystals.

There may be other mods that were done that you have not found. I recommend you perform a thorough check of the RF Unit HET OSC using the TS-520 service manual and schematic.

73
Mike W5RKL
W5RKL http://www.w5rkl.com

W5RKL http://www.w5rkl.com Welcome to my Amateur Radio website. 73 Mike W5RKL email: w5rkl@yahoo.com

View on www.w5rkl.com http://www.w5rkl.com
Preview by Yahoo

49957. Re: [TS-520_820_530_830] CB Conversion

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-01 13:11:09 UTC
From: wagstw46@...
Topic: 49940 Message: 49957

I forgot to mention at 28 mhz trying to run TX Level diagram your RF measuring device may de-tune the circuit. All probes and test leads have series inductance and shunt capacitance. Even a 2 or 3 pf probe can affect your reading.

Best to not use alligator or mini-grabber test leads at this frequency. Just touch your RF or O-scope probe tip directly on measuring point. If looking at RF drive on Pin 5 of 6146 tube socket carefully touch probe tip there and make sure it doesnt slip off and make sure the ground lead is securely clipped and doesnt slip off and swing into the 900vdc filter caps or the HV rectifier board which is always hot.

Assuming proper alignment the Marker should peak close to 1200 on 28.8mhz. When you apply your probe should have to open the plates (turn Drive control CW) a few degrees to peak your measured RF drive voltage reading.

Again if you dont have a 3 diode probe pretty easy to make one or watch Ebay for a Heath PK-3 and when you get it open it up and make sure the builder actually installed 3 diodes in it.

If reading is low run Car Level pot full CW position. You can also peak the 28 mhz Drive coil and the Mixer coil for maximum RF voltage at this time. Ordinarily should not use Mixer coil to peak Drive but receiver has plenty of gain so if your drive is marginal it is OK to get a little more drive by peaking the Mixer coil as well as the Drive coil. You do this at some expense to the receiver, but a lot of owners and techs use this method to get some additional ALC indication.

Terry K9TW

---In TS-520_820_530_830@yahoogroups.com, <wagstw46@...> wrote :

Are you saying with the rig in CW mode and the Screen Grid switch off you can peak the ALC reading with the 10 meter drive coil (orange)? What is your definition of "nicely"? Where do you have to set the CAR Level pot? Where does the ALC indication deflect to?

49958. interfacing a keyer with the Kenwood TS830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-01 13:38:49 UTC
From: richard_206@...
Topic: 49958 Message: 49958

Greetingse :
This is my first post.I have a TS830S which I have no problems with when I attach the Bencher straight key in the back of the TS830S to operate cw.In addition I have a Palstar CW50A keyer with which I practice cw with my recently refurbished K8RA paddle . The problem arises when I try to connect a line between the
" cathode keying " plug on the back of the keyer and run it with the usual 1/4" plug to the key jack in the back of the TS-830S.As soon as I either turn on the keyer or just connect the keyer and the 830 it gives me a key down sound, as if it were either tuning or transmitting.Turning the tune button on/off on the keyer or switching to send/receive on the 830 makes no difference.I blew a fuse yesterday before I could get the plate current down or turn the rig off.Is it possible that my radio guy, who is Thai, miswired the cable.What are the connections supposed to be anyway, between the CW50A keyer and the 830. This is driving me nuts and I find it hard to operate.I had a stroke last year and operating now with a straight key is really tiring.Does anyone have any ideas.Not being a wrench I imagine it is probably the wiring but my radio guy just changed it.
Yours Truly
Richard
HS0ZFQ I hope I used the correct format.

49959. Re: [TS-520_820_530_830] interfacing a keyer with the Kenwood TS830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-01 13:55:56 UTC
From: Mike W5RKL
Topic: 49958 Message: 49959

Richard,

The TS-830 does not use Cathode" CW keying, the TS-830 uses "Grid Block" CW keying. Therefore, connect the CW50A's "Grid Block" socket to the TS-830 rear panel CW key socket.

73
Mike W5RKL
www.w5rkl.com

On 11/1/2014 8:38 AM, richard_206@... [TS-520_820_530_830] wrote:
>
> Greetingse :
>
> This is my first post.I have a TS830S which I have no problems
> with when I attach the Bencher straight key in the back of the TS830S
> to operate cw.In addition I have a Palstar CW50A keyer with which I
> practice cw with my recently refurbished K8RA paddle . The problem
> arises when I try to connect a line between the
>
> " cathode keying " plug on the back of the keyer and run it with the
> usual 1/4" plug to the key jack in the back of the TS-830S.As soon as
> I either turn on the keyer or just connect the keyer and the 830 it
> gives me a key down sound, as if it were either tuning or
> transmitting.Turning the tune button on/off on the keyer or switching
> to send/receive on the 830 makes no difference.I blew a fuse yesterday
> before I could get the plate current down or turn the rig off.Is it
> possible that my radio guy, who is Thai, miswired the cable.What are
> the connections supposed to be anyway, between the CW50A keyer and the
> 830. This is driving me nuts and I find it hard to operate.I had a
> stroke last year and operating now with a straight key is really
> tiring.Does anyone have any ideas.Not being a wrench I imagine it is
> probably the wiring but my radio guy just changed it.
>
> Yours Truly
>
> Richard
>
> HS0ZFQ I hope I used the correct format.
>
>

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49960. Re: [TS-520_820_530_830] Re: 37.995MHz Crystal??

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-01 17:28:56 UTC
From: Joseph Stiles
Topic: 49955 Message: 49960

Chad,
I agree with Mike-w5rkl. Check the other crystals for proper frequency markings. The "CB hack" that is done to the 520(s) is the most difficult to do and undo due to the construction of the rig.
  You can go to the groups home page, and look/search under "photos" for the "TS 520 OSC BOARD CB HACK" uploaded by yours truly, to see what to look for. Sometimes, having a small dental type mirror to get down between the board(s) is a great help as is, a really bright flashlight
 73 Joe
WB7UQU

On Saturday, November 1, 2014 5:52 AM, "w5rkl@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

  Chad,

Have you checked the other two 10 meter HET OSC crystals to ensure they are the correct ham band 10 meter crystals?

28 = 36.895Mhz
28.5 = 37.395Mhz

The 37.995Mhz HET OSC crystal is for 29.1Mhz.

Write Bob Mansker, KE5FTF, an email, ke5ftf at mail dot com, he may have the crystals.

There may be other mods that were done that you have not found. I recommend you perform a thorough check of the RF Unit HET OSC using the TS-520 service manual and schematic.

73
Mike W5RKL
W5RKL
| |
| | W5RKL Welcome to my Amateur Radio website. 73 Mike W5RKL email: w5rkl@... | |
| View on www.w5rkl.com | Preview by Yahoo |
| |

49961. Re: 37.995MHz Crystal??

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-01 19:06:02 UTC
From: junkmailsux@...
Topic: 49955 Message: 49961

The other two crystals are correct but the positions have been mixed up. X5-36.895 is in X7's place. 36.395 is where X5 should be and 37.995 is missing. Also 36.895 and 36.395 have been moved to the bottom of the board. I'll try to post a picture.

I'll try to go through it in the next few days but it's been so cold lately that my pain level has shot through the roof.

Thanks for the help

Chad
KK6DPE

49962. Re: [TS-520_820_530_830] interfacing a keyer with the Kenwood TS830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-01 22:24:49 UTC
From: glene77is@...
Topic: 49958 Message: 49962

Mike W5RKL
Grid Block Keying is right.
Measure 69 volts here on my TS-830 .

Reminds me of the Grid Block Keying I used on my old ARC-5,
way back in the 50's as K4KKQ, 21 years old.
On my old Bug,
Had to put a leather patch over the screw holding the thumb pad.
It would bite like crazy when I put my bare feet on the concrete floor.
That was when I was 21, now I always wear shoes.
But, my 1940 Bug still has that leather patch on it !

Good forum, and lots of experts helping out.
Glen Ellis, KK4LPG (bio on QRZ)

49963. Re: [TS-520_820_530_830] interfacing a keyer with the Kenwood TS830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-02 02:41:30 UTC
From: W5RKL
Topic: 49958 Message: 49963

Glen,

The TS-830, as well as the other KW hybrids and many other transceivers that used grid block CW keying, all have a "negative" grid block keying voltage of between -60VDC to -65VDC or so. Notice the "minus" sign to the left of the voltage values.

Cathode keying voltage, on the other hand, is a positive voltage and can be as high at +100VDC or higher, depending on the stage being keyed.

Grid Block voltage is used to bias a stage to cut off. When the key is closed (pressed), the grid block voltage is shorted to ground causing the negative cut off voltage to become "less negative", allowing the stage(s) to turn ON. Releasing the key causes the grid block voltage to increase (become more negative), turning the stage(s) to turn OFF.

Cathode keying simply uses the CW key as a "switch" to complete the cathode circuit of the keyed stage(s) to ground, turning the keyed stage(s) ON. Releasing the CW key causes the keyed stages cathode circuit to become "open", turning the keyed stages OFF.

73
Mike W5RKL
www.w5rkl.com

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http://www.avast.com

49964. RE: [TS-520_820_530_830] interfacing a keyer with the Kenwood TS830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-02 05:10:18 UTC
From: Richard Vincent
Topic: 49958 Message: 49964

Mike: Your explanation of the difference between cathode and grid block keying was exactly what I was going to ask you. I have committed the text longhand to my hardbound notebook. This is Richard HS0ZFQ and when you told me the TS-830S was grid block voltage keying I was astounded.Anyway I switched the cable from cathode keying to grid block keying and that solved part of the problem but I blew another fuse. I am back to using my Bencher hand key with no keyer until I get a new rig. So now when I begin tuning up I check my bias in SSB mode 60Ma.Next I go to TUNE and peak the ALC reading and then dip the plate and peak the rf. Now for the weird part.When I turn the mode switch to cw to complete the tune up I do not get any output unless I turn the standby switch to send.This had happened once before. So if I remember correctly between transmitting and receiving now I have to flip the standby switch from send to receive. Something is rotten in the state of Denmark
Richard
HS0ZFQ

this post edited as it contained already posted material. 73 Joe wb7uqu

This email is free from viruses and malware because avast! Antivirus http://www.avast.com/ protection is active.

49965. Re: [TS-520_820_530_830] interfacing a keyer with the Kenwood TS830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-02 04:56:05 UTC
From: Joseph Stiles
Topic: 49958 Message: 49965

Richard,
What you describe having to use the send switch when in "CW" mode is normal. See Pg 20 (5) CW OPERATION of the TS-830S Instruction Manual.
To avoid having to flip the send switch all the time...set your VOX gain control to "ON"...and also set your delay time with the VOX delay control. Mine's set to delay about 1 second.

Blowing fuses needs to be further checked out
73 Joe
WB7UQU

On Saturday, November 1, 2014 9:45 PM, "Richard Vincent richard_206@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Mike: Your explanation of the difference between cathode and grid block keying was exactly what I was going to ask you. I have committed the text longhand to my hardbound notebook. This is Richard HS0ZFQ and when you told me the TS-830S was grid block voltage keying I was astounded.Anyway I switched the cable from cathode keying to grid block keying and that solved part of the problem but I blew another fuse. I am back to using my Bencher hand key with no keyer until I get a new rig. So now when I begin tuning up I check my bias in SSB mode 60Ma.Next I go to TUNE and peak the ALC reading and then dip the plate and peak the rf. Now for the weird part.When I turn the mode switch to cw to complete the tune up I do not get any output unless I turn the standby switch to send.This had happened once before. So if I remember correctly between transmitting and receiving now I have to flip the standby switch from send to receive. Something is rotten in the state of DenmarkRichardHS0ZFQ

this post edited as it contained already posted material. 73 Joe wb7uqu

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49966. TS-520SE Stuff wanted

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-02 08:34:42 UTC
From: beeson.neil@...
Topic: 49966 Message: 49966

I'm wanting to buy some gear to go with my Kenwood TS 520SE to bring it closer to a COMPLETE STATION. The stuff I'm seeking are TV-502, TV-506 Transverters, VFO-520 external VFO and a SM-220 Station Monitor. I don't mind if it needs a paint job but would prefer good condition.
If anyone has these or other parts I don't have laying around I would like to hear from them.☐ Pay-pal or direct debt can be used for payment
I know postage from the States to Aus is a KILLER
73
Neil
VK6NSB
kenwood520@hotmail.com

49967. Hybrid Net Update (November 2, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-02 19:35:59 UTC
From: Mark Gilger
Topic: 49967 Message: 49967

Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm
The net started it's existence on November 1st,
2012. The yearly check-in totals are posted at
the bottom of this message. It showed we had a
10% increase in our Saturday check-ins and an 8%
on Sunday as compared to the 2012 check-ins.

The Saturday's net was run by me, WB0IQK. There
were 16 stations checking in under good band conditions.

We had the following number of radios checking in.

1 running TS-520(x)
4 running TS-530(x)
4 running TS-820(x)
1 running TS-830S
0 running TS-511
0 running 599 twins

I was running my TS-830S & Drake L4B amplifier.

The Sunday net was run by me, WB0IQK. There were
19 stations checking in under fair band
conditions. He had the following number of radios checking in.

3 running TS-520(x)
0 running TS-530(x)
2 running TS-820(x)
4 running TS-830S
1 running TS-511
0 running 599 twins

The rest were running non Kenwood hybrid equipment.

He was running my TS-940S & Drake L4B amplifier.

We have been having several people checking in
regularly with their TS-430, TS-440, and
TS-940□s, which of course is not a hybrid,
although over 30+ years old. Everyone is welcome
as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a net control station, please send me an email. Currently it's just myself, WB2KNR and WB0SGA. I would like to get several more. If we do, we can alternate so everyone might be on a 3-4 week rotation. It's a lot of fun and a good way to make sure you station is optimized.

For anyone that has not heard, we have a new web site that WB4HFN is hosting. He currently has a very nice site for Drake, Collins and Heathkit and now Kenwood Hybrids. Good quality manuals plus sale flyers and brochures will be found here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 ☐ Oct. 2012 Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins

November 2013, Saturday☐s net total = 94, Sunday☐s total = 85
December 2013, Saturday☐s net total = 87, Sunday☐s total = 103
January 2014, Saturday☐s net total = 71, Sunday☐s total = 82
February 2014, Saturday☐s net total = 80, Sunday☐s total = 85
March 2014, Saturday☐s net total = 82, Sunday☐s total = 73
April 2014, Saturday☐s net total = 64, Sunday☐s total =43
May 2014, Saturday☐s net total = 66, Sunday☐s total = 35
June 2014, Saturday☐s net total = 43, Sunday☐s total = 59
July 2014, Saturday☐s net total = 24, Sunday☐s total = 46
August 2014, Saturday☐s net total = 62, Sunday☐s total = 53
September 2014, Saturday's net total = 49, Sunday's total = 27
October 2014, Saturday's net total = 62, Sunday's total = 53
November 2014, Saturday☐s net total 16, Sunday☐s total = 19 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

49968. Re: [TS-520_820_530_830] TS-520SE Stuff wanted

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-02 20:23:05 UTC
From: Joseph Stiles
Topic: 49966 Message: 49968

Neil,
A few words of advice: The TV-502 & TV-506 require unique plugs that are getting very difficult to find. The SM-220 will function with the rig in question but, if it has a pre-installed 'pan display" make sure it is the BS-5 which has the 3.395Mhz IF, the BS-8 will not work with the 520(s)
  Cheers.....
 73 Joe
WB7UQU

On Sunday, November 2, 2014 1:34 AM, "beeson.neil@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

I'm wanting to buy some gear to go with my Kenwood TS 520SE to bring it closer to a COMPLETE STATION. The stuff I'm seeking are TV-502, TV-506 Transverters, VFO-520 external VFO and a SM-220 Station Monitor. I don't mind if it needs a paint job but would prefer good condition.
If anyone has these or other parts I don't have laying around I would like to hear from them.☐ Pay-pal or direct debt can be used for paymentI know postage from the States to Aus is a KILLER73NeilVK6NSBkenwood520@... <!--

49969. Re: [TS-520_820_530_830] TS-520SE Stuff wanted

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-02 20:37:38 UTC
From: Donald Allen
Topic: 49966 Message: 49969

Neil,

I would concur with Joe. The SM-220 is normally found w/o a BS-5 or BS-8, or with a BS-8. Kenwood did not sell many BS-5 units for use with the TS-520(S). Thankfully, when I purchased my SM-220 in the late '70s, I purchased the BS-5 a couple weeks later. And, no, it's not for sale... Hi.

Be very careful, as the BS-8 designed for use with the TS-820(S) initially, will not work with the 520 series as Joe stated.

73
Don W9CW

Moderator's Note:
Message length reduced
W5RKL Group Moderator

49970. Re: [TS-520_820_530_830] CB Conversion

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-03 00:51:15 UTC
From: John Davidson
Topic: 49940 Message: 49970

I never was able to get over 80 W from my TS520 on 10M and I got it new out of the box.
Got 100W out on all the other bands with 200mA plate current.
I believe it was a design weakness.

My radio is Ham Radio...CW is Real Radio
73, John...K8JD

On Saturday, November 1, 2014 9:11 AM, "wagstw46@yahoo.com [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

I forgot to mention at 28 mhz trying to run TX Level diagram your RF measuring device may de-tune the circuit. All probes and test leads have series inductance and shunt capacitance. Even a 2 or 3 pf probe can affect your reading.

Best to not use alligator or mini-grabber test leads at this frequency. Just touch your RF or O-scope probe tip directly on measuring point. If looking at RF drive on Pin 5 of 6146 tube socket carefully touch probe tip there and make sure it doesnt slip off and make sure the ground lead is securely clipped and doesnt slip off and swing into the 900vdc filter caps or the HV rectifier board which is always hot.

Assuming proper alignment the Marker should peak close to 1200 on 28.8mhz. When you apply your probe should have to open the plates (turn Drive control CW) a few degrees to peak your measured RF drive voltage reading.

Again if you dont have a 3 diode probe pretty easy to make one or watch Ebay for a Heath PK-3 and when you get it open it up and make sure the builder actually installed 3 diodes in it.

If reading is low run Car Level pot full CW position. You can also peak the 28 mhz Drive coil and the Mixer coil for maximum RF voltage at this time. Ordinarily should not use Mixer coil to peak Drive but receiver has plenty of gain so if your drive is marginal it is OK to get a little more drive by peaking the Mixer coil as well as the Drive coil. You do this at some expense to the receiver, but a lot of owners and techs use this method to get some additional ALC indication.

Terry K9TW

---In TS-520_820_530_830@yahoogroups.com, <wagstw46@...> wrote :

Are you saying with the rig in CW mode and the Screen Grid switch off you can peak the ALC reading with the 10 meter drive coil (orange)? What is your definition of "nicely"? Where do you have to set the CAR Level pot? Where does the ALC indication deflect to?

49971. Re: TS-520SE Stuff wanted

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-03 08:51:21 UTC
From: beeson.neil@...
Topic: 49966 Message: 49971

Thanks for the advice Joe. I'll keep it in the memory banks 73
Neil
VK6NSB

49972. TS-820 issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-03 11:44:12 UTC
From: va2ir@...
Topic: 49972 Message: 49972

Good day, new member here. Glad to be on board.

I just acquired a new-looking ts-820 with user and service manual from the original owner.

It was taken out of service in the late 90's - the fellow lost interest, and he just passed it to me.

So, the rig lights up. There is a hiss out of the receiver.

The digital display does not work. There is no high voltage indication on the meter. Tuning manually against my good HF rig, the unit is not receiving at all. Not sure about TX as I have no mic, but using the front panel tx/rx switch, aside from the speaker hiss going silent, there is no change.

I'm thinking power supply issues since there is no HV or power (taking a guess here) to the digital display board and associated circuits.

Is this a common issue with these rigs?

And yes, I will do some reading on here. I'm only a member for the last 24 hours.

Thanks

Ian
VA2IR

49973. Re: [TS-520_820_530_830] TS-820 issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-03 12:48:19 UTC
From: Mike W5RKL
Topic: 49972 Message: 49973

Ian,

None of the meter switch positions are enabled in receive. The meter, in receive, display ONLY variations in the receiver's AGC voltage (S units). The meter switch is enabled ONLY in transmit. Therefore, setting the meter switch to any position in receive is useless.

Have you checked to ensure the jumper plug has been installed into the rear 9 pin remote VFO socket? This is shown in the operator's manual on page 8. If the plug is not plugged into the 9 pin remote VFO socket or a simple jumper wire is not between pins 8 and 9 on the 9 pin remote VFO socket then there will be no 9VDC power to the TS-820's internal VFO and the TS-820 will appear to be dead and the digital display will also be dark.

You said the operator and service manuals came with the TS-820. Have you spent time studying the operator's manual to learn how to operate the TS-820 and how to properly tune the TS-820's transmitter?

73
Mike W5RKL
www.w5rkl.com

On 11/3/2014 5:44 AM, va2ir@... [TS-520_820_530_830] wrote:
>
> Good day, new member here. Glad to be on board.
>
> I just acquired a new-looking ts-820 with user and service manual from
> the original owner.
>
> It was taken out of service in the late 90's - the fellow lost interest,
> and he just passed it to me.
>
> So, the rig lights up. There is a hiss out of the receiver.
>
> The digital display does not work. There is no high voltage indication
> on the meter. Tuning manually against my good HF rig, the unit is not
> receiving at all. Not sure about TX as I have no mic, but using the
> front panel tx/rx switch, aside from the speaker hiss going silent,
> there is no change.
>
> I'm thinking power supply issues since there is no HV or power (taking a
> guess here) to the digital display board and associated circuits.
>
> Is this a common issue with these rigs?
>
> And yes, I will do some reading on here. I'm only a member for the last

> 24 hours.
>
> Thanks
>
> Ian
> VA2IR
>
>

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49974. Re: [TS-520_820_530_830] TS-820 issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-03 13:12:54 UTC
From: Me
Topic: 49972 Message: 49974

I did read about that plug but to be honest i did not check for it. I will tonight. Thanks for the info regarding the metering. On my yaesu ft980 i can see all metering functions in receive including collector voltage for the finals. I assumed kenwood would be similar. My bad.
Ian
Va2ir

Portion of message deleted to reduce message length
73
Mike W5RKL
Group Moderator

49975. Re: [TS-520_820_530_830] TS-820 issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-03 14:08:44 UTC
From: Mike W5RKL
Topic: 49972 Message: 49975

Ian,

The Kenwood TS-820/TS-820S is no where near the same or even remotely similar to a Yaesu FT-980!

You said you read about the plug but you didn't check it. That should have been a step you should have performed when studying the remote VFO plug in the operator's manual.

73
Mike W5RKL
www.w5rkl.com

On 11/3/2014 7:12 AM, Me va2ir@... [TS-520_820_530_830] wrote:
>
> I did read about that plug but to be honest i did not check for it. I
> will tonight. Thanks for the info regarding the metering. On my yaesu
> ft980 i can see all metering functions in receive including collector
> voltage for the finals. I assumed kenwood would be similar. My bad.
>
> Ian
> Va2ir
>
>
> Portion of message deleted to reduce message length
>
> 73
>
> Mike W5RKL
>
> Group Moderator
>
>
>
>

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49976. Re: [TS-520_820_530_830] CB Conversion

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-03 14:14:51 UTC
From: wagstw46@...
Topic: 49940 Message: 49976

It is not a Kenwood "Design Weakness" to have slightly lower RF output on 10 meters.

It is very easily understood. All designers of multi-band transceivers have to play the hand they are dealt. Lower RF output power on 10 meters is not unique to the TS520 just as lower receiver gain on 10 meters is not unique. It is because you cannot have tuned circuits with optimum Q on all 5 bands due to the physical and electrical layout and the fixed values of parasitic capacitance and inductance that the Driver tube input and output presents along with the pc traces, lead wires, bandswitch contacts etc. Designers are forced to use practical values and physical size of inductors and capacitors that can be adjusted that in combination do not result in optimum LC ratios and optimum loaded Q. This especially manifests itself on 10 meters.

Do some parallel resonant calcs or build a 10 meter linear and you will understand what values you are dealing with. Selecting the tank capacitor to have a low enough minimum value has always been a challenge to those of us who could not afford a vacuum variable.

What it boils down to is because you are dealing with a multi-band transceiver. A single band radio can be better optimized on 10 meters, but still has limitations. A multi-band transceiver design results in fixed minimum levels of parasitic capacitance and inductance (in Driver tube , in wire leads, PC traces, bandswitches etc) that force the designers to use less than optimum LC ratios in the 10 meter parallel resonant circuits. If you look at Mixer and Driver tuned circuits you will see no parallel capacitors with the associated slug tuned coils. Why is that? The Driver tube input and output capacitance and the PC traces, lead wire etc present fixed parasitic capacitance that is used to resonate those coils. Designers have to live with less than optimum LC ratios.

If you were a multi-band transceiver design engineer where would you chose to make compromises in loaded Q? This is easy question to answer. Common sense would be at the high end of the multi-band transceiver coverage range. WHY? Because easy to use other means to compensate for it. Most commonly we employ high gain directive antennas on 10 meters to make up for the lower power output and receiver gain. Easy to make and swing 10 meter high gain directive antennas and not so easy to make 160 meter high gain rotatable antennas. So if you had to make a choice you would optimize the tuned circuit LC ratios on the low end of the transceiver band coverage.

Same problem with the early tube boat anchor receivers. They were nearly deaf on 10 meters by todays standards. This again was due to the fixed minimum values of circuit parasitic capacitance and inductance that forced the designers to select tuned circuits with less than optimum LC ratios which meant less than optimum loaded Q. Back then many of us built Nuvistor pre-amps to improve 10 meter receiver performance when those tubes became available and later when FETs and Mosfet came on the scene. We didnt say that the receiver had Design flaw or Design weakness. We understood why it performed the way it did and we compensated for it with antennas and later with external low noise high gain pre-amps.

So KW hybrid having slightly lower RF output on 10 meters and less receiver gain is not due to Design Weakness. It is due to Design Requirements that the physical size and layout of

electrical components and interconnecting paths present at 10 meters. As I say very easy to compensate for the slight performance difference this presents.

Besides the difference between 80 watts and 100 watts on 10 meters is meaningless when the band is open especially if you are swinging a 10 meter yagi. You can work the world easily with 80 watts.

Terry K9TW

49977. Re: [TS-520_820_530_830] TS-820 issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-03 14:31:09 UTC
From: Me
Topic: 49972 Message: 49977

That's why i said my bad.
Ian
2ir
Sent with AquaMail for Android
http://www.aqua-mail.com http://www.aqua-mail.com

49978. Re: CB Conversion

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-04 13:35:24 UTC
From: Billy Bob
Topic: 49940 Message: 49978

Also, If I may add to Terry's statement, on 10 meters you are dealing with almost 2 MHz of band-with. On the rest of the bands you are only dealing with a few KHz of band-with. I don't care what Hybrid you are using, the tank coils are going to have a hard time covering that much frequency. If you align your coils according to the manual on 10 meters at the point you should come close to full output, but as you move away from that point, the power will gradually drop off. Both of my 830's and my 530 are the same way. I lose about 15 watts of output on each end of the band. My friends FT101e is the same way.

Most solid state rigs have tuners built into them that can compensate for this much band-with. Thus you can obtain full output. That is the nice thing about built in auto tuners. I don't know if auto tuners would be the right name as I would think "compensators" would be a better name. I have owned 3 different solid state rigs and got rid of all of them in exchange for the Kenwood's I now run. I will never get rid of these rigs. They are simple to use after you read the manual a couple of times. Great audio both ways and I get great reports on them.

Bill WD8OSJ

49979. Re: [TS-520_820_530_830] TS-820 issues

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-04 13:41:51 UTC
From: va2ir@...
Topic: 49972 Message: 49979

Update: Getting home last night, I checked the back of the 820, and sure enough the 9 pin plug that jumpers the remove VFO was not there, but it was in the goody bag full of misc. connectors and plugs that came with the rig. So plugging in the round plug and with fingers crossed, I turned on the radio and it worked.

However, the digital display is wonky so it needs to be investigated. And the main tuning dial is off by about 9kc. However, dialling up my Ft980 on 14.250 and listening over the 820, the manual dial indicated just under 14.260.

So the rig does work. When I have more time, I will run thru the articles and postings regarding the display and cleaning the band switches etc. to get this rig in nice operating condition.

Best

Ian
VA2IR

49980. Re: CB Conversion

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-04 17:07:27 UTC
From: wagstw46@...
Topic: 49940 Message: 49980

I wasnt talking about the Pi-Network (output tank circuit) efficiency. That is another similar subject. Yes bandwidth presents challenge. That is why KW gives you recommended frequencies on each band to perform the coil pack alignment. They want max RF voltage swing to occur at 1200 on the Drive Control when the VFO is at approx mid range. In this way you should be able to tune the Driver stage tank circuits to resonance at the extremes of the VFO travel. Might ask have you measured the RF drive voltage at 6146 control grids lock to lock? Might be interesting to do that on 80 and then on 10.

I was talking about the Driver stage and the band switched in tuned circuits between the output of the Transmit Mixer and the control grid of the 12BY7A driver tube and the tuned circuits between the Plate of the 12BY7A driver tube and the control grids of the 6146 finals.

Ideally the design engineers want to use optimum LC ratios for these interstage tuned circuits that result in maximum RF voltage swing and an operating Q that provides sufficient bandwidth without tuning being too touchy.

The main sources of this fixed parasitic capacitance that places constraints on the KW Designers includes:
1. The band switch contacts and associated PC traces.
2. The 12BY7A driver tube and the input capacitance from Control Grid to Cathode and the output capacitance from the Plate to the Cathode.
3. The 12BY7A tube socket and its associated PC traces.
4. PC traces and jumper wires on the Coil Pack and RF boards.

All of these sources result in something on order of 10pf to 15pf of fixed capacitance that will be in shunt with each band switched in slug tuned inductor (tank coil). We are not done yet. We have to be able to tune these mini tank circuits to resonance for each position of the VFO dial setting. We do that with VC-1, VC-2, VC-3 ganged Drive Control air variable capacitors. These capacitors are two gang with the Large gang presenting approx 5pf to 200pf and the Small gang presenting approx 5pf to 25pf of capacitance (on the lower end of this capacitance range as you turn the Drive Control cw and unmesh the plates at 29mhz for example).

So the Designers are forced at 10 meters to use a slug tuned inductor less than approx 1.0uhy (yes same for the pi-network tank coil). This results in lower than optimum LC ratio and lower than optimum RF voltage swing at control grids of the 6146 finals. As previously mentioned you wont see any fixed capacitors across the 10 meter inductors.

You can prove this if you have RF millivolt meter or O-scope. Load up on 80 meters and you will be able to open CAR Level pot at a low level (#2 to #3) and get full scale ALC indication and around 47rms RF volts at the control grids of the finals. You can do that at any setting of the VFO dial.

Now repeat that on 10 meters and you will have to open CAR Level pot much more (#5 or more) and may not get full scale ALC indication with exception of a well aligned TS-820,530,830. You will not see 47 RF volts at control grids of the finals. Maybe on order of 39 rf volts.

Probably beat this to death. All I was trying to do is respond to Mr. Davidsons comment that lower output power on 10 meters is due to KW hybrid "Design Flaw". I think more appropriately due to "Design Contraints" inherent in any band switched transceiver. Not unique to KW hybrids. Heath, Yaesu, Drake, and yes Collins Engineers had to deal with this fixed parasitic capacitance. As I stated in my original response easy to compensate for it by using high gain directive antennas on 10 meters.

I suggest anyone who enjoys this type of discussion continue it with me off the reflector and allow people to get back to discussing troubleshooting and repairing their Hybrids. I like trying to figure out how these treasures work and enjoy discussing it with those who have similar interests. I also have made extensive measurements like the capacitance values of VC-1 thru VC-3 that I can share if you need it and always interested in your measurements as well.

Terry K9TW

49981. TS-520 Too much drive?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-04 17:02:50 UTC
From: Nathan Johnson
Topic: 49981 Message: 49981

I am working on a (mostly) working TS-520S. When I go to begin tuning(Mode to Tune, meter to ALC, adjusting drive), the meter maxes out at the peak of the drive control. I have reduced the CAR control to minimum, and it does affect the reading, but the peak is still beyond the range of the meter(This is on 40m, my only current antenna). I will test other bands on the dummy load tonight. If I set the drive to the middle of the off-Scale reading, I can complete the tuning process, and the radio functions normally. At that point the CAR control accurately varies the key-down RF output(measured on my Bird). I am curious as to what may be causing the reading to go off-scale, any advice on how to proceed would be great.

Nathan
KK4REY

_
Sent from Mailbox

49982. Re: [TS-520_820_530_830] TS-520 Too much drive?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-04 22:55:47 UTC
From: Wes Will
Topic: 49981 Message: 49982

> I am working on a (mostly) working TS-520S.
> When I go to begin tuning(Mode to Tune, meter to ALC, adjusting drive),
> the meter maxes out at the peak of the drive control.....
>
> Nathan
> KK4REY

The industrial engineer in me is starting to get very interested in the failure rate of the HV board R5/R6 meter limiting divider pair, seeing as we seem to be having a real run on this, "ALC is missing/really high when I go to tune mode but everything else works fine" thing.

And I know the yahooligan list thing is an absolute MESS to search through, but does anyone (besides me anyway) actually even try any more? I think it has been covered about a hundred times now.

--
Wes Will
SysAdmin
N9KDY

49983. RE: [TS-520_820_530_830] TS-530s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-05 18:42:02 UTC
From: Tom Bauer
Topic: 12415 Message: 49983

John,

Sure you don’t want to keep it?

I have a TS830S that had similar issues after being stored for 25 years.

I installed a new band switch coupler from Ken K4EAA, used a can of DeOxIt Gold G5 to spray the band switch wafers 3 times over several days while working the band switch. Vast improvement. All bands working except 18 and 21MHz which are now intermittent. But I know I’m on the right track. Will keep working it for 100% reliability on all bands.

Will soon update the HV caps and install a final cage kit. That should hold my baby for many more years.

Total cost $65.

73

Tom

Just wondering if there would be any interest in my TS-530s before I put
it on a popular auction site?
Having had prices to repair/service the radio, I thinking of getting a
more modern radio instead.
The radio is not without its issues. RX fine, but no TX – No Mic, band
selector out of sync with Plate selector.
Valves have been checked/replaced with known good ones and swapped back
and no joy in TXing.

Located UK .

Cheers

John
M6JPE

49984. Re: [TS-520_820_530_830] TS-520 Too much drive?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-06 00:16:27 UTC
From: Nathan Johnson
Topic: 49981 Message: 49984

I have checked R5/6. They were indicating 64k each(out of circuit) so I replaced, well outside tolerance, but shouldn't have affected the voltage divider. The terminal marked 210 is measuring 265, so I am now tracing out the power supply.

Nathan

KK4REY

_
Sent from Mailbox

On Tue, Nov 4, 2014 at 4:59 PM, Wes Will wwill@...
[TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com> wrote:

>> I am working on a (mostly) working TS-520S.
>> When I go to begin tuning(Mode to Tune, meter to ALC, adjusting drive),
>> the meter maxes out at the peak of the drive control.....
>>
>> Nathan
>> KK4REY
> The industrial engineer in me is starting to get very interested in the
> failure rate of the HV board R5/R6 meter limiting divider pair, seeing
> as we seem to be having a real run on this, "ALC is missing/really high
> when I go to tune mode but everything else works fine" thing.
> And I know the yahooligan list thing is an absolute MESS to search
> through, but does anyone (besides me anyway) actually even try any more?
> I think it has been covered about a hundred times now.
> --
> Wes Will
> SysAdmin
> N9KDY

49985. We made the Movies

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-06 02:46:23 UTC
From: roberteleazer@...
Topic: 49985 Message: 49985

Sorry if this has been mentioned here before, but I have been watching the episodes of TNT's "The Last Ship" that I recorded over the summer.

And in one scene a guy is working on an amateur band transceiver, has the top off the case. To me at least, it's clear that the set shown is a TS-520.

Robert
WB5WSV

49986. Re: [TS-520_820_530_830] TS-520 Too much drive?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-06 03:04:46 UTC
From: w5rkl@...
Topic: 49981 Message: 49986

The +265VDC is the normal "210" driver and final tube screen voltage No need to mess with that voltage.

An increase in R5 and R6 resistance from 56K to 64K, each resistor, will have very little affect on the final tube screen voltage with the MODE switch set to TUNE.

The normal final tube screen voltage with R5 and R6 at 56K each and the MODE switch set to TUNE with 265VDC applied to the HV Unit's 210 terminal will be

265 / 112000 = .00236 amps

.00236 x 56000 = +132.16VDC

265 - 132.16 = +132.84VDC

An increase of 16K ohms total (R5 and R5 in series) will result in a the following voltage change at the HV Unit's TUNE mode terminal with +265VDC applied to the HV Unit's 210 terminal:

265 / 128000 = .00207 amps

.00207 x 64000 = +132.48VDC

265 - 132.48 = +132.52VDC

As you can see there is less than a volt difference with a total 16K ohms of resistance increase.

73
Mike W5RKL
www.w5rkl.com http://www.w5rkl.com
.

49987. Re: [TS-520_820_530_830] TS-520 Too much drive?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-06 03:10:01 UTC
From: Wes Will
Topic: 49981 Message: 49987

On 11/05/2014 06:16 PM, 'Nathan Johnson' jdownj@...
[TS-520_820_530_830] wrote:
> > The terminal marked 210 is measuring 265,

265V DC in TRANSMIT or in RECEIVE, or the same in both modes? (INTO A DUMMY LOAD of course, be nice to your finals and don't abuse them. But you knew that of course.)

--
Wes Will
SysAdmin
N9KDY

49988. AT-200 antenna tuner switch

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-06 03:13:59 UTC
From: lynn091@...
Topic: 49988 Message: 49988

Recently acquired a AT-200 and the front wafer switch on the band switch is broken. Anyone have a defective band switch that the front section is good?? Any thoughts as to a replacement wafer or switch??
Thanks
Lynn,kb5by

49989. Re: [TS-520_820_530_830] TS-520 Too much drive?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-06 03:12:01 UTC
From: Nathan Johnson
Topic: 49981 Message: 49989

Same in both, into a dummy.

Nathan

KK4REY

_
Sent from Mailbox

On Wed, Nov 5, 2014 at 9:09 PM, Wes Will wwill@...
[TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com> wrote:

> On 11/05/2014 06:16 PM, 'Nathan Johnson' jdownj@...
> [TS-520_820_530_830] wrote:
>> > The terminal marked 210 is measuring 265,
> 265V DC in TRANSMIT or in RECEIVE, or the same in both modes? (INTO A
> DUMMY LOAD of course, be nice to your finals and don't abuse them. But
> you knew that of course.)
> --
> Wes Will
> SysAdmin
> N9KDY

49990. RE: [TS-520_820_530_830] We made the Movies

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-06 05:04:18 UTC
From: Joe Wolfe
Topic: 49985 Message: 49990

I hope it was displayed, being used correctly. Unlike the Heathkit SB-301 being used as a transceiver in the movie, CONTACT! (With Jodie Foster)

ARGH!

Joe – W7RKN

From: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com]
Subject: [TS-520_820_530_830] We made the Movies

And in one scene a guy is working on an amateur band transceiver, has the top off the case. To me at least, it's clear that the set shown is a TS-520.

49991. RE: [TS-520_820_530_830] TS-530s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-06 07:07:04 UTC
From: fpath fpath
Topic: 12415 Message: 49991

John,

The repairs for this radio are quite easy, just need patience. There are a number of people that can help you on this forum. We can even do it off list incase you are unsure of how to do things or need some finer guidance. I have just helped someone off list and they are very happy with the radio now. Things to consider are HV caps, definately band switch coupler and I'd consider the relay on the RF board. The maybe an alignment, with the right information you could get this baby up and running and enjoying working DX

Good luck with your decision

73s

Dave

VK5PDL

From: TS-520_820_530_830@yahoogroups.com
To: TS-520_820_530_830@yahoogroups.com
Date: Wed, 5 Nov 2014 12:42:02 -0600
Subject: RE: [TS-520_820_530_830] TS-530s

John,

Sure you don’t want to keep it?

I have a TS830S that had similar issues after being stored for 25 years.
I installed a new band switch coupler from Ken K4EAA, used a can of DeOxIt Gold G5 to spray the band switch wafers 3 times over several days while working the band switch. Vast improvement. All bands working except 18 and 21MHz which are now intermittent. But I know I’m on the right track. Will keep working it for 100% reliability on all bands.

Will soon update the HV caps and install a final cage kit. That should hold my baby for many more years.

Total cost $65.

73

Tom

Just wondering if there would be any interest in my TS-530s before I put
it on a popular auction site?
Having had prices to repair/service the radio, I thinking of getting a
more modern radio instead.
The radio is not without its issues. RX fine, but no TX – No Mic, band
selector out of sync with Plate selector.
Valves have been checked/replaced with known good ones and swapped back

and no joy in TXing.

Located UK .

Cheers

John
M6JPE

49992. RE: [TS-520_820_530_830] We made the Movies

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-06 07:10:58 UTC
From: fpath fpath
Topic: 49985 Message: 49992

I dont think it was a 520, more along the lines of a Drake\Swan or Heathkit. Our good friend Mike, W5RKL would be able to identify very quickly as he has worked on many of those radios. What epsiode and I'll see if we can identify

73s

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: TS-520_820_530_830@yahoogroups.com
Date: Wed, 5 Nov 2014 21:04:18 -0800
Subject: RE: [TS-520_820_530_830] We made the Movies

I hope it was displayed, being used correctly. Unlike the Heathkit SB-301 being used as a transceiver in the movie, CONTACT! (With Jodie Foster)

ARGH!

Joe – W7RKN

From: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com]
Subject: [TS-520_820_530_830] We made the Movies

And in one scene a guy is working on an amateur band transceiver, has the top off the case. To me at least, it's clear that the set shown is a TS-520.

49993. Re: [TS-520_820_530_830] We made the Movies

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-06 12:29:59 UTC
From: W5RKL
Topic: 49985 Message: 49993

If members wish to discuss this topic then please do so off group using
private emails. Thank you.

73
Mike W5RKL
Yahoo Kenwood TS_520_820_530_830 Group Moderator

On 11/6/2014 1:10 AM, fpath fpath fpath@... [TS-520_820_530_830]
wrote:
>
> I dont think it was a 520, more along the lines of a Drake\Swan
> or Heathkit. Our good friend Mike, W5RKL would be able to identify
> very quickly as he has worked on many of those radios. What epsiode
> and I'll see if we can identify
>
> 73s
> Dave
> VK5PDL
>
> ---
> To: TS-520_820_530_830@yahoogroups.com
> From: TS-520_820_530_830@yahoogroups.com
> Date: Wed, 5 Nov 2014 21:04:18 -0800
> Subject: RE: [TS-520_820_530_830] We made the Movies
>
> I hope it was displayed, being used correctly. Unlike the Heathkit
> SB-301 being used as a transceiver in the movie, */CONTACT/*! (With
> Jodie Foster)
>
> ARGH!
>
> Joe ? W7RKN
>
> *From:*TS-520_820_530_830@yahoogroups.com
> [mailto:TS-520_820_530_830@yahoogroups.com]
> *Subject:* [TS-520_820_530_830] We made the Movies
>
>
>
>
> And in one scene a guy is working on an amateur band transceiver, has
> the top off the case. To me at least, it's clear that the set shown
> is a TS-520.
>
>

>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

49994. Re: [TS-520_820_530_830] TS-520 Too much drive?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-06 14:34:35 UTC
From: wagstw46@...
Topic: 49981 Message: 49994

I dont know how you got off on Screen grid divider resistors or Screen grid voltage as the source of your "problem"? 210 is the name of the Screen Grid voltage source. Same with all HV power sources. It is the "nominal" screen grid voltage you would see key down on the 6146 screen grids depending on some variables including line voltage.

There is really no such thing as "too much RF drive"? This is not a Class C CW transmitter of the 50s.

You have to remember you are not setting a RF Drive Level. You are tuning two LC networks to resonance (Mixer and Drive coils on input and output of the 12BY7A Driver tube) and not setting RF drive to any meter indication level. You want maximum RF drive voltage swing at the 6146 control grids so that you can swing the grid positive with respect to the cathode and cause grid current to flow. When that happens you cause the ALC circuit to drive the ALC bus voltage down from RF-1 3.3vdc level to around 2vdc. The meter is monitoring the ALC bus voltage and when it sees this bus voltage go down it drives the meter up scale. You need to increase or decrease the CAR pot setting to keep the ALC indication at a point where you can see a peak in the reading as you adjust the Drive Control. You are not using the CAR pot to set a RF drive level.

If you are more comfortable keeping the ALC indication within top end of the Black printed ALC range on the meter face then simply reduce the CAR pot to put it there and then peak that indication with the Drive control. What you NEVER want to do is use the CAR pot to set a level. I have seen people on You Tube videos leaving the Drive Control at 1200 position regardless of the VFO setting and then flipping to Send and then setting the ALC indication to max of ALC black printed range with the CAR pot. That is wrong. You have not tuned the Mixer and Driver LC circuits to resonance if you do that. You have also detuned the receiver.

No one has asked you a clarifying question. When you say that the ALC indication pegs full scale in Tune Mode as you attempt to peak it do you mean the full scale deflection (FSD) of the panel meter or do you mean it goes outside the Black Printed ALC range on the meter face? If it is meter full scale then simply reduce the CAR pot and then peak the reading with the Drive Control. If it is outside the Black ALC range then dont worry about it. Simply peak the indication with the Drive Control. The Black range is there to facilitate modulating the radio in SSB mode so you dont splatter. Nothing more.

This step is very simple. Place meter in ALC, increase CAR pot to 1200, Flip to Send, Peak the meter indication (maximum) with the Drive Control. At anytime the ALC indication exceeds the FSD of the panel meter simply reduce the CAR pot to get meter back on scale so you can see the peak. If you have no indication of very low indication simply increase the CAR pot to give yourself something to work with.

You can test your Driver stage on each band by turning off the SG switch and peaking the Drive Control in CW mode. Should be able to get FSD on all bands with perhaps exception of 10 meters and indication should stay at FSD and not slowly fall off. A good rig this will occur with CAR pot below #5 or 1200.

Let the Driver tube rest between bands as it is running full bore in Class A and gets pretty warm doing this test.

Terry
K9TW

49995. RE: [TS-520_820_530_830] TS-530s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-06 17:45:16 UTC
From: john
Topic: 12415 Message: 49995

Hi

After much consideration, I have sold the radio on to a new home. I did consider breaking for parts but that did not feel right. So now the new owner can bring the radio back to life. I have purchased a non valve radio with auto ATU.

I would like to thank those who have offered assistance – thanks J

73
John
M6JPE

Message edited for length
73
Mike W5RKL
Group Moderator

49996. Re: [TS-520_820_530_830] TS-520 Too much drive?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-06 19:12:49 UTC
From: Nathan Johnson
Topic: 49981 Message: 49996

To clarify, I see the meter mechanically pegged(full right, hitting the end of its travel) while attempting to peak the drive control in either TUN or CW mode. This occurs with the CAR control reduced all the way(FULLY Counterclockwise). The peak where the reading is beyond the range of the meter is approx 20 degrees of rotation of the Drive control, so the only way I am able to peak the drive is to estimate the center of the region where the meter is full right. This is occurring on all bands including 10m.

Nathan
KK4REY

Message edited for length
73
Mike W5RKL
Group Moderator

49997. Re: [TS-520_820_530_830] TS-520 Too much drive?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-07 00:44:45 UTC
From: John Davidson
Topic: 49981 Message: 49997

Is the meter switch set for Ip or ALC? If it's in the RF position there is a pot to set the relative RF signal level calibration.

My radio is Ham Radio...CW is Real Radio
73, John...K8JD

From: "'Nathan Johnson' jdownj@... [TS-520_820_530_830]"
<TS-520_820_530_830@yahoogroups.com>
To: TS-520_820_530_830@yahoogroups.com
Sent: Thursday, November 6, 2014 2:12 PM
Subject: Re: [TS-520_820_530_830] TS-520 Too much drive?

To clarify, I see the meter mechanically pegged(full right, hitting the end of its travel) while attempting to peak the drive control in either TUN or CW mode. This occurs with the CAR control reduced all the way(FULLY Counterclockwise). The peak where the reading is beyond the range of the meter is approx 20 degrees of rotation of the Drive control, so the only way I am able to peak the drive is to estimate the center of the region where the meter is full right. This is occurring on all bands including 10m.

Nathan
KK4REY
Message edited for length
73
Mike W5RKL
Group Moderator

49998. Re: [TS-520_820_530_830] TS-520 Too much drive?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-07 01:20:57 UTC
From: wagstw46@...
Topic: 49981 Message: 49998

You can always peak the Drive control using receiver back ground noise or the 25khz marker signal, but that is a work around and you should not have to do that.

Are you saying with the meter in ALC position and the CAR pot full CCW when you flip to Send the meter deflects to the far right and hits against the peg? Do you have any RF drive? Can you see any RF power deflection on your wattmeter if you have one in line or on the RF relative power position of your panel meter? If no RF drive you probably dont have the ALC bus powered. With zero vdc on it the meter will deflect hard to the right.

If you have a DMM or VTVM locate the AGL wire wrap terminal post on the IF board (use Xray view of the board from the service manual). Flip to Send and see if you have any dc voltage on AGL. If not then you may have a bad Aux relay contact. On rare occasions the RF-1 voltage supplied to the RF board is missing. I have had couple of TS520s that had bad solder connections at the RF-1 terminal post on the RF board. The ALC bus is powered via RF-1 being applied to the RF board. From there it is switched to AGL terminal by Aux relay contact RL1-1.

Terry K9TW

49999. Re: [TS-520_820_530_830] TS-520 Too much drive?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-07 00:53:36 UTC
From: Nathan Johnson
Topic: 49981 Message: 49999

This is with the meter in the ALC position.

Nathan
KK4REY

Message shorten
W5RKL Group Moderator

50000. Re: [TS-520_820_530_830] TS-520 Too much drive?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-07 14:50:40 UTC
From: wagstw46@...
Topic: 49981 Message: 50000

Mike:

If this comment is directed to me? Then I offer:

If he is peaking on receiver back ground noise or marker signal the meter is always in ALC position in RX mode. I was just trying to tell him that on a well aligned Hybrid the ALC peak in Tune mode should occur very close to same position in RX mode. So he could peak the Drive in RX mode and leave Drive control alone and proceed with loading. He was describing the only way he could peak the drive and that wasnt a true statement.

Far too many 520 owners use this work around on 10 meters because they believe it is normal to have no ALC indication and that is a myth. Never had one leave the bench that didnt have ALC indication on 10 meters after good alignment. Never as strong as lower bands for all the reasons I previously explained in the LC ratio discussion.

I will be very interested to hear if he has any RF drive at all. It sounds like he has no ALC bus voltage. If that is true then would have instant pegging of the ALC indication when flip to Send and no TIF and of course no RF voltage at Finals control grids to peak with Drive control. Could be wrong, but usually an easy fix.

I only stuck my nose in due to seeing all the discussion about screen grid voltage. Screen grid voltage was essential for ALC indication strange that you can have good ALC indication with the SG switch off and -100vdc applied to the Finals screen grids!

Back to the soldering iron. Just needed a little break.

Terry K9TW

50001. Re: [TS-520_820_530_830] TS-520 Too much drive?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-07 15:01:48 UTC
From: Mike W5RKL
Topic: 49981 Message: 50001

Hi Terry,

I don't know what comment I made that you are referring to? If you are referring to my comment about discussing ham gear seen in Movies then that is not part of nor was it intended to be part of the ALC discussion.

Mike W5RKL

On 11/7/2014 8:50 AM, wagstw46@... [TS-520_820_530_830] wrote:
>
>
> Mike:
>
> If this comment is directed to me? Then I offer:
>
> If he is peaking on receiver back ground noise or marker signal the
> meter is always in ALC position in RX mode. I was just trying to tell
> him that on a well aligned Hybrid the ALC peak in Tune mode should
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> Drive in RX mode and leave Drive control alone and proceed with
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> Far too many 520 owners use this work around on 10 meters because they
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> grid voltage. Screen grid voltage was essential for ALC indication
> strange that you can have good ALC indication with the SG switch off
> and -100vdc applied to the Finals screen grids!
>
> Back to the soldering iron. Just needed a little break.
>
> Terry K9TW
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

50002. Re: [TS-520_820_530_830] TS-520 Too much drive?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-07 17:58:55 UTC
From: wagstw46@...
Topic: 49981 Message: 50002

Mike:

Sorry I am getting confused.

I thought you made the comment about "with the meter in ALC position" and I see it was Nathan who made it and at bottom of his response it says shortened by W5RKL. I missed the "shortened by" part. I need to read closer. I sure miss the old and un-improved format!

Please disregard my ramblings!

Terry K9TW

50003. Greetings! And TS-520 repair question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-08 03:06:07 UTC
From: Mike Allard
Topic: 50003 Message: 50003

I just picked up a TS-520 as my first HF radio, and it's overall in excellent shape - except for what seems to be a cold solder joint under VC1 on the RF board (the frontmost variable capacitor driven by the Drive shaft, in the very front of the radio). This shows itself as intermittent operation of the drive knob particularly on 80 meters; pushing/wiggling the knob vertically, or tapping on this particular capacitor with a plastic instrument, causes the connection to make and break (increase/decrease in signal / meter deflection).

(Apart from this issue, the radio performs very well, receiving quite clearly and putting out over 100 watts on all bands.)

My first question: Does it sound like a cold solder joint to you?

My second question: How do I get to the bottom side of the RF board to fix this? The service manual describes removing the coil packs to remove the RF board, but doesn't go into much more detail than that. I want to make sure I can get this thing apart and get it back together in working order.

(As an aside, it looks like the drive shaft sprocket and the capacitor sprocket are misaligned vertically by about 3-4 mm for this capacitor - perhaps this chain has just been too tight and that has caused this issue by pulling up on the front edge of the capacitor? I plan to move the drive sprocket back into place so that it's vertically aligned like the other two chains are.)

Thanks in advance for any help - and hope to catch some of you on the air soon!

- Mike, K9MJA

50004. Re: Greetings! And TS-520 repair question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-08 14:56:20 UTC
From: wagstw46@...
Topic: 50003 Message: 50004

Mike:

First of all close (fully mesh) the plates so you can grasp the capacitor without risk of damaging the plate spacing. Then grasp the capacitor body and rock it as you observe the Marker signal or off air signals on the S meter. This hasnt got much to do with chain tension. Just poor soldering.

Unfortunately no good way to access the RF board solder pads. The Het Osc "hanging board" blocks full access to most of the air variable 5 solder pads.

Best chance at effective repair will require pulling the bandswitch shaft and remove the Het Osc board and the 1st shield. This means undoing the leads on the 4 or 5 wire wrap terminal post on the RF board (depending on board rev). When going back cant rewrap the old unwrapped lead wires. Need to tack solder replacement jumpers. Need good clean pins to do this.

While Het board is out do a very good visual on the slug tuned cores for frozen and cracked cores. Now is time to replace them (very common problem with all 520 rigs).
Then best approach is to remove the old solder at the these heavy square tabs and clean the post and re-solder them. Sometimes you can get lucky by just reheating the existing solder, but going to trouble to access I would remove as much of old solder as can.

Other option would be to contact Bob Mansker KE5FTF who has a lot of TS520 parts and see if he has an RF board with the hanging boards. If so, again inspect all the ferrite slug tuned cores while you have good access to remove any frozen or cracked ones.

Lastly, I dont know if you could apply any Silver Conductive Ink with an artist brush with the Het Board and Shield in place. Might be worth an attempt especially if you have only one bad post or one that has relatively decent access. The worse one is almost directly under the Het Board.

Not a fun repair.

Terry K9TW

50005. TS-829S Digital Frequency Bad Readings

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-08 19:56:29 UTC
From: ct1bww@...
Topic: 50005 Message: 50005

Dear Friends,

Digital Frequency on My Old Kenwood TS-820-S getting crazy with bad readings.
Any as a idea where is the fault ? I think mught be a Topic with this matter.
Thanking in advance for reading and possible suggestions.
73s frm Marq CT1BWW

50006. NOS RL1 /RL2 for 520 820 Rigs

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-08 19:55:22 UTC
From: wo7t@...
Topic: 50006 Message: 50006

In 1981, I purchased MY first new rig TS-520SE. A sage OT Elmer advised I should buy spare relays for the rig at that time. In 1982, Kenwood of Compton.CA shipped me the following parts:

S51-4016-15 TS-520S RELAY / RL1
S51-4017-15 TS-520S/820S RELAY /RL2

They have sat in un-opened plastic bags, as packed by Kenwood since then

in a shipping box, lost at the back of the ham shack cabinets. Not so sage

advice I would say given the durability and longevity of the hybrid kenwoods
and probably being suitable for decades of relay cleaning before replacements.

Nonetheless, brand new original relays of > 30 yrs for sale - $40 for the pair plus $5.95 shipping priority USPS. They're going up on swap boards soon, and just wanted to start here first with crowd restoring and fixing these.

73, Mark de wo7t@juno.com

50007. Re: Greetings! And TS-520 repair question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-08 23:46:17 UTC
From: mike.allard42@...
Topic: 50003 Message: 50007

Terry -

Thanks for the thorough description of what I need to do. I had been poking around your site last night before you replied, so your name and call were familiar to me when I got the reply.

I like the way you added the "not a fun repair" epilogue to the end of your missive. :)

I've seen other articles on here about reconnecting the wire-wrapped leads - which is good. I would have probably tried 2 or 3 things that didn't work before simply cleaning the post and jumpering the lead to it.

I do have some solder experience, but not a lot - and I do have some electronics experience, but not a lot. My most recent electronics exercise was adding an EQ bypass switch to my Ibanez electric bass. Not quite the same world as this repair!

Nevertheless, I'm a-gonna attempt this sometime in the next few days. I expected to have to do some minor repairs on this radio over time; this is likely just the first. Thanks for your detailed instructions. I'll make sure to take a good look at the coil slugs while I'm in there. Apart from broken or frozen, is there anything in particular I should look for?

Thanks and 73!

- Mike, K9MJA

50008. Re: [TS-520_820_530_830] TS-829S Digital Frequency Bad Readings

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-09 00:38:18 UTC
From: Joseph Stiles
Topic: 50005 Message: 50008

Marq,
You are going to have to be more specific about what "bad readings" means.
There are many places that can/will cause problems. The DG-1 unit immediately comes to mind. One of circuit boards has about 18 "thru-holes" that over time will may cause the display to not function correctly. The PD/VCO unit is another...and the main VFO is another..and so on.
Look on Pg's 40, 41 of the TS-820(S) Service Manual to start with
 73 Joe
WB7UQU

On Saturday, November 8, 2014 2:21 PM, "ct1bww@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Dear Friends,
Digital Frequency on My Old Kenwood TS-820-S getting crazy with bad readings.Any as a idea where is the fault ? I think mught be a Topic with this matter.Thanking in advance for reading and possible suggestions.73s frm Marq CT1BWW <!--

50009. Re: Greetings! And TS-520 repair question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-09 00:52:54 UTC
From: wagstw46@...
Topic: 50003 Message: 50009

Mike

I believe you said rig was new to you. Have you tried it on 10 meters to make sure it has not been CB hacked? If not, do that before removing the Het Osc board to repair the bad VC-1 solder connections as you can more easily replace the involved Het Osc crystals while you have the Het board out.

If you encounter cracked or frozen coil cores come back and ask about favorite methods for freeing and removing them. Several of the members can help you with what they have found works well.

Good luck
Terry K9TW

50010. Re: [TS-520_820_530_830] NOS RL1 /RL2 for 520 820 Rigs

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-09 03:49:20 UTC
From: Jim Lamanteer
Topic: 50006 Message: 50010

MARK ILL TAKE THEM. HAVE U GOT A PHONE NUMBER U CAN BE REACHED AT?? THANKS JIMMY WB2KNR
From: "wo7t@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com>
To: TS-520_820_530_830@yahoogroups.com
Sent: Saturday, November 8, 2014 2:55 PM
Subject: [TS-520_820_530_830] NOS RL1 /RL2 for 520 820 Rigs

In 1981, I purchased MY first new rig TS-520SE. A sage OT Elmer advised I should buy spare relays for the rig at that time. In 1982, Kenwood of Compton.CA shipped me the following parts:
S51-4016-15 TS-520S RELAY / RL1S51-4017-15 TS-520S/820S RELAY /RL2
They have sat in un-opened plastic bags, as packed by Kenwood since then
in a shipping box, lost at the back of the ham shack cabinets. Not so sage
advice I would say given the durability and longevity of the hybrid kenwoodsand probably being suitable for decades of relay cleaning before replacements.

Nonetheless, brand new original relays of > 30 yrs for sale - $40 for the pair plus $5.95 shipping priority USPS. They're going up on swap boards soon, and just wanted to start here first with crowd restoring and fixing these.

73, Mark de wo7t@...
<!--

50011. Re: Greetings! And TS-520 repair question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-09 01:34:38 UTC
From: mike.allard42@...
Topic: 50003 Message: 50011

Terry -

I just took the bottom off of the radio for the first time. In doing this, I noticed that two screws were missing from the bottom and a third screw was a little loose. Maybe time to order a hardware kit (or hit up the local hardware store for a couple matching screws).

I posted a new photo album https://groups.yahoo.com/neo/groups/TS-520_820_530_830/photos/albums/57074860 here with two pictures in it.

I meshed the plates as you suggested and started wiggling the capacitors - with the radio unplugged. VC2 and VC3 appear solid; VC1 had a quiet but distinct "click" as I moved it, and I could see one of the pins move up and down slightly from the top side of the board, as noted in the "Loose VC1" picture I posted.

In looking at this from the bottom, it looks like my first task might be to try to fix the known loose connection. I've marked it on the "Bad Solder Joint" picture I posted. I might be able to do this by just removing the shield and not removing either of the neighboring boards. What are your thoughts?

You know, I'm not sure if we tried it on 10 meters; I know we did 20, 40, and 80. The solder at the corners of the Het Osc board looks a little different than the solder on the other boards (maybe it's been out before?), but the 4 wire-wrapped terminals coming up through the RF board look to be exactly the same condition as the other wire-wrapped terminals for the other hanging boards (so maybe it hasn't been out before). It sounds like I might need to make another "quick" trip to my friend's house (he lives 40 minutes away) to test this out - I don't have an antenna or another radio at home to compare to. If his radio and mine can receive the same signals at the same frequencies on 10, then I should be good.

- Mike, K9MJA

P.S. The seller offered a 14-day return policy on the radio; I received it 7 days ago. A bad solder joint is one thing; if it's been modified for CB, then I'm not yet sure how I'll proceed. I at least have to test it out on 10 and hopefully find out it's not on 11 or 12 or whatever CB is. :)

50012. Re: Greetings! And TS-520 repair question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-09 04:05:54 UTC
From: w5rkl@...
Topic: 50003 Message: 50012

Just a short comment. I could be wrong but if your TS-520 has the "HET" socket on the rear panel and you have access to a frequency counter, connect the frequency counter to the TS-520 rear panel's "HET" socket. The HET crystal oscillator frequency will be displayed on the frequency counter. Set the Band Switch to each 10 meter position and note the frequency displayed on the frequency counter then compare the frequencies with the 520's RF Unit schematic HET crystal frequencies.

73
Mike W5RKL
W5RKL http://www.w5rkl.com

W5RKL http://www.w5rkl.com Welcome to my Amateur Radio website. 73 Mike W5RKL email: w5rkl@yahoo.com

View on www.w5rkl.com http://www.w5rkl.com
Preview by Yahoo

50013. Re: Greetings! And TS-520 repair question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-09 01:55:08 UTC
From: mike.allard42@...
Topic: 50003 Message: 50013

Terry -

Of the three highest-frequency crystals on the Het Osc board, the two highest frequency crystals say 37.995 and 37.395 (matching the schematic). The third one starts with 36 (which could match the 36.985), but I don't have a small enough mirror to get in there to read the rest of the frequency.

So, maybe I'm good on 10. :)

- Mike, K9MJA

50014. Re: Greetings! And TS-520 repair question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-09 04:16:39 UTC
From: mike.allard42@...
Topic: 50003 Message: 50014

Mike - Greetings from another Mike :)

This TS-520 doesn't have the HET output on the back; it doesn't have the display adapter added in. :(

But I appreciate the suggestion; that would have been great for testing if it was there!

- Mike, K9MJA

50015. Re: Greetings! And TS-520 repair question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-09 12:50:28 UTC
From: wagstw46@...
Topic: 50003 Message: 50015

It appears you have factory Het xtals installed in the 10 meter bandswitch positions.

If you can access the square post where you see the movement then go ahead and try to reheat it and apply some additional solder and try to get it to wet to the square post from the variable capacitor. You may get lucky and that connection may be the only source of your intermittent receive. Would do that before pulling the Het Osc board.

Next thing you need to purchase or make is a dummy load. A must have accessory for transmitter loading and testing.

No reason to drive 40 miles to friends house to test your radio.

The intermittent receive may have been the only operational issue that caused the seller to unload this radio. Would be nice if had mentioned the problem, but we truly live in a Caveat Emptor world even in what use to be the Ham Radio "Fraternity"!

You might want to go back and negotiate for a partial refund?

Terry K9TW

50016. Transverter cables

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-09 11:06:39 UTC
From: beeson.neil@...
Topic: 50016 Message: 50016

I managed the easy bit, scored the 502 and 506 transverters for my TS-520S in pristene cond from a deceased estate. Now the HARD bit, they haven't got cables so if anybody has dead units and doesn't need the cables or plugs? I only need the cables or plugs, I do realise they're like hens teeth but you never know gotta try my luck.
73
Neil
VK6NSB

50017. Re: Greetings! And TS-520 repair question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-09 13:13:24 UTC
From: mike.allard42@...
Topic: 50003 Message: 50017

Terry -

I have already purchased a MFJ-949E tuner with an internal dummy load; I tested it as well at my friend's house. I think its meters need to be adjusted a bit, but that's not a big deal.

I bought the radio on eBay (caveat emptor indeed), and overall I'm really quite pleased. I expected to have to make some minor repairs and adjustments along the way, so I'm not even really bothered by this. It's all a learning experience to me.

I'm even chronicling my adventures with this radio http://k9mja.blogspot.com by blogging as I go - it's giving me the opportunity to write as well as learn.

Thanks for all your help so far - I'll definitely keep the group posted on my progress.

- Mike, K9MJA

50019. Re: [TS-520_820_530_830] Re: Greetings! And TS-520 repair question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-09 18:27:04 UTC
From: Mike W5RKL
Topic: 50003 Message: 50019

If building a dummy load is not your cup of tea then you might consider purchasing a new dry 50 ohm dummy load from MFJ.

The MFJ-260C has a maximum constant RF carrier power rating of 300 watts for 30 seconds, 100 watts constant RF carrier power ratting of 1.5 minutes, and 50 watts constant RF carrier power rating of 3 minutes. Cool down periods of 2 minutes apply, see the MFJ-260C manual for details.

I use the MFJ-260C 50 ohm dry dummy load on my bench when testing transmitters such various transmitters/transceivers such as the DX-40, HW-101, SB-100 and SB-400 transmitters/transceivers and my modified to 10 meter AM, Johnson Messenger One, II, and 223 11 meter transceivers. Never had a problem. Price is $39.95 plus shipping from MFJ. The MFJ-260C does not come with a short coax jumper between transmitter/transceiver and dummy load. You can make one easily out of a short piece of RG-8x coax and 2 PL-259s and 2 RG-8x UG-176 reducer or you can buy the coax jumper at various sources.

There's a brand new MFJ-260C on eBay, same price $39.95 plus $11 shipping under eBay ad #381022593130, no coax jumper included.

You can also use the wet dummy loads, Heathkit Cantenna (most are used and prices vary with or without oil) or a new MFJ 250 comes with 1 gal of oil for $69.95.

Not only will a 50 ohm dummy load be used during transmitter maintenance testing but it should always be used when tuning the transmitter, regardless what type of antenna and/or with or without a tuner in use, before switching to the antenna.

73
Mike W5RKL
www.w5rkl.com

On 11/9/2014 11:51 AM, Gary Desler gdesler@... [TS-520_820_530_830]
wrote:
>
> See http://www.k4eaa.com/dummy.html to build an inexpensive 100 w
> dummy load. I have used it for two years.
>
> Thanks,
>
> Gary
>
> AA7YO
>

> "Bad men need nothing more to compass their ends, than that good men
> should look on and do nothing.â□□
>
> John Stuart Mill, 2/1/1867
>
> *From:*TS-520_820_530_830@yahoogroups.com
> [mailto:TS-520_820_530_830@yahoogroups.com]
> *Sent:* Sunday, November 9, 2014 4:50 AM
> *To:* TS-520_820_530_830@yahoogroups.com
> *Subject:* [TS-520_820_530_830] Re: Greetings! And TS-520 repair question
>
> It appears you have factory Het xtals installed in the 10 meter
> bandswitch positions.
>
> If you can access the square post where you see the movement then go
> ahead and try to reheat it and apply some additional solder and try to
> get it to wet to the square post from the variable capacitor. You may
> get lucky and that connection may be the only source of your
> intermittent receive. Would do that before pulling the Het Osc board.
>
> Next thing you need to purchase or make is a dummy load. A must have
> accessory for transmitter loading and testing.
>
> No reason to drive 40 miles to friends house to test your radio.
>
> The intermittent receive may have been the only operational issue that
> caused the seller to unload this radio. Would be nice if had mentioned
> the problem, but we truly live in a Caveat Emptor world even in what
> use to be the Ham Radio "Fraternity"!
>
> You might want to go back and negotiate for a partial refund?
>
> Terry K9TW
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

50020. Re: RE: [TS-520_820_530_830] Re: Greetings! And TS-520 repair question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-09 18:27:52 UTC
From: Mike Allard
Topic: 50003 Message: 50020

Gary - I have seen that K4EAA dummy load; I was planning o make one - until I got a good deal on a MFJ-949E tuner with an internal dummy load. :l
Thanks for the suggestion in any case - I do appreciate the willingness of people here to jump in and help out!
- Mike, K9MJA

Moderator's Note:
Length of message shorten

73
Mike W5RKL
Group Moderator

50021. Re: [TS-520_820_530_830] Re: Greetings! And TS-520 repair question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-09 21:05:54 UTC
From: Mike W5RKL
Topic: 50003 Message: 50021

Mike,

You will need to ensure you do not exceed the MFJ-949E dummy load's
steady maximum RF carrier limits which are:

300 watt steady RF carrier, max 30 seconds with a 3 minute cool down time.
100 watt steady RF carrier, max 90 seconds with a 1 to 2 minute cool
down time.

The above limits are on page 2 of the MFJ-949E manual. The above limits
are the exact same specifications the MFJ-260C 300 watt dummy load has.

73
Mike W5RKL
www.w5rkl.com

On 11/9/2014 12:27 PM, Mike Allard mike.allard42@...
[TS-520_820_530_830] wrote:
>
> Gary-? IhaveseenthatK4EAAdummyload; I wasplanningomakeone-
> untilIgotagooddealonaMFJ-949Etunerwithaninternaldummyload. :l
>
> Thanksforthesuggestioninanycase-
> Idoappreciatethewillingnessofpeopleheretojumpinandhelpout!
>
> - Mike, _K9MJA_
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

50022. Re: [TS-520_820_530_830] TS-520 Too much drive?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-09 21:41:03 UTC
From: Nathan Johnson
Topic: 49981 Message: 50022

I apologize for the fact that I have not been communicating effectively about this. I shot a short video to explain the problem better. I posted to YouTube.

http://youtu.be/Wniy6LMO6gg http://youtu.be/Wniy6LMO6gg

The only thing not shown in the video is that adjusting the CAR control has little effect on the issue.

Nathan
KK4REY

_
Sent from Mailbox https://www.dropbox.com/mailbox

this msg edited as it contained already posted material. 73 Joe wb7uqu

50023. Hybrid Net Update (November 9 , 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-09 23:50:08 UTC
From: Mark Gilger
Topic: 50023 Message: 50023

Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

The net started it's existence on November 1st, 2012. The yearly check-in totals are posted at the bottom of this message. It showed we had a 10% increase in our Saturday check-ins and an 8% on Sunday as compared to the 2012 check-ins.

The Saturday's net was run by me, WB0IQK. There were 29 stations checking in under good band conditions.

We had the following number of radios checking in.

3 running TS-520(x)

2 running TS-530(x)

5 running TS-820(x)

7 running TS-830S

0 running TS-511

0 running 599 twins

I was running my Drake 'C' liine & Drake L4B amplifier.

The Sunday net was run by me, WB0IQK. There were 19 stations checking in under fair band conditions. He had the following number of radios checking in.

3 running TS-520(x)

1 running TS-530(x)

4 running TS-820(x)

4 running TS-830S

0 running TS-511

0 running 599 twins

The rest were running non Kenwood hybrid equipment.

He was running my TS-940S & Drake L4B amplifier.

We have been having several people checking in
regularly with their TS-430, TS-440, and
TS-940□s, which of course is not a hybrid,
although over 30+ years old. Everyone is welcome
as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a
net control station, please send me an email.
Currently it's just myself, WB2KNR and WB0SGA. I
would like to get several more. If we do, we can
alternate so everyone might be on a 3-4 week
rotation. It's a lot of fun and a good way to
make sure you station is optimized.

For anyone that has not heard, we have a new web
site that WB4HFN is hosting. He currently has a
very nice site for Drake, Collins and Heathkit
and now Kenwood Hybrids. Good quality manuals
plus sale flyers and brochures will be found
here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 □ Oct. 2012 Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins
Nov. 2013 - Oct. 2014 Saturdays total 842 check-ins, Sunday total 744 check-ins

November 2014, Saturday□s net total 45, Sunday□s total = 38 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

50024. Re: [TS-520_820_530_830] TS-520 Too much drive?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-10 01:44:59 UTC
From: wagstw46@...
Topic: 49981 Message: 50024

Nathan

Are you saying that if you turn the CAR LEVEL POT down from its 1000 position the ALC indication will still peg full scale? Even if you turn it full CCW?

When I watch this I am screaming turn the Car Level pot down man! That is what you would normally do any time ALC indication pegs full scale. Just simply reduce the CAR level.

If rig is working correctly when you reduce the Car level you lower the bias voltage that it is applying to the Balanced Modulator diodes lowering their conduction and lowering the double side band suppressed carrier output from the BM. The Car pot normally provides from 0.0 vdc to approx 0.60 vdc at full CW position. These are germanium diodes and with 0.60 vdc applied they would be turned on hard.

Go to the BM wire wrap terminal on the Generator board and connect your VTVM or DMM and measure the bias voltage thru the complete range of the CAR LEVEL Pot.

If you have an open BM diode you will read 9vdc and not 0.0 to 0.6vdc.

Terry K9TW

50025. Re: [TS-520_820_530_830] TS-520 Too much drive?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-10 02:20:52 UTC
From: Nathan Johnson
Topic: 49981 Message: 50025

Yes, ALC will still peg the meter when CAR is fully CCW. Measuring the BM terminal I read 0.578v in recieve, and 0.324v in send. The odd thing is that this did not change at all through the adjustment of the CAR control.

Nathan
KK4REY

_
Sent from Mailbox https://www.dropbox.com/mailbox

this msg edited as it contained already posted material. 73 Joe wb7uqu

50026. Re: [TS-520_820_530_830] TS-520 Too much drive?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-10 13:57:50 UTC
From: wagstw46@...
Topic: 49981 Message: 50026

OK then you have found the reason for instant max DSBSC output from the BM. Now need to find out why.

If you are telling me that you have 0.324vdc at BM terminal with rig flipped to Send at any position of the Car Level pot including full CCW then the germanium BM diodes are fully forward biased (turned on).

Question is why?

1. Is the Car Pot knob actually turning the Car Pot shaft? Never seen a broken pot but possible. Usually people tighten the knob lock screw too tight and it pinches the shaft which is a hollow tube for concentric Mic gain pot shaft and when they do that the Mic gain knob moves with the Car pot knob. Just need to snug the screw. You can remove the Mic gain pot knob to look at the Car level shaft (hollow tube) to see if it is turning as you move the Car knob.

Maybe someone installed the knob wrong and has offset the zero? Very easy to check. Loosen the lock screw and remove the knob and then set the hollow shaft full CCW and then install knob and align white mark at Zero and snug the screw. If in current state you can turn the Car knob from Zero to 10 and find the stops then not likely mis adjusted.

2. Place your DMM on the CV wire wrap post which is the wiper of the Car Level pot. You should see from 0.0 to approx 9.0vdc as you run the pot thru its full range.

The reason you see 0.0 to 0.6vdc at BM instead of 0.0 to 9.0vdc is there is a series dropping resistor 18k R35 that comes in to play when diodes are turned on and forward current causes an IR drop.

Report back your CV findings.

Terry K9TW

50027. Re: [TS-520_820_530_830] TS-520 Too much drive?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-10 14:08:19 UTC
From: wagstw46@...
Topic: 49981 Message: 50027

Sorry I missed commenting about 0.578 vdc in RX mode.

With Car pot at Zero you should have 0.0 vdc at BM in Rx mode.

With Car pot at 10 you should have approx 0.50 vdc to 0.60 vdc in Rx mode.

Makes me think that pot knob has been offset or the set screw is loose. Again make sure the range of the Car Level pot is from Zero to 10 with positive stops.

Terry

50028. How long to "tune" TS-820S?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-10 15:31:29 UTC
From: David Boothe
Topic: 50028 Message: 50028

Hey, folks. Having a lot of fun with my TS-820s. I use multi-band antennas (G5RV jr and trap dipoles) and an LDG AT-600 ProII to tune them with the 820s. Got a new antenna and the AT-600 ProII tuner sometimes takes a while

to tune up and establish a memory setting. Very quick thereafter. The question is: should I worry if it takes a while for the AT-600 to establish a match? Sometimes it takes 20-30 seconds with the 820s providing output in

"tune" mode. Is there a "maximum time" I should observe?

Thanks!

Dave

KC3CIP

50029. Re: [TS-520_820_530_830] How long to "tune" TS-820S?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-10 16:27:34 UTC
From: Joseph Stiles
Topic: 50028 Message: 50029

Dave,
with the rig in "tune" mode and already tuned up for proper resonance on selected band, 20-30 seconds should not create a problem.
The problems start when you operate the rig in an out of resonance state.
 73 Joe
WB7UQU

On Monday, November 10, 2014 8:00 AM, "'David Boothe' boothedw@... [TS-520_820_530_830]" <TS-520_820_530_830@...m> wrote:

  Hey, folks. Having a lot of fun with my TS-820s. I use multi-band antennas (G5RV jr and trap dipoles) and an LDG AT-600 ProII totune them with the 820s. Got a new antenna and the AT-600 ProII tunersometimes takes a while to tune up and establish a memory setting. Very quickthereafter. The question is: should I worry if it takes a while forthe AT-600 to establish a match? Sometimes it takes 20-30 seconds withthe 820s providing output in “tune” mode. Is there a “maximumtime” I should observe?Thanks!DaveKC3CIP <!--

50030. TS830S Front subpanel

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-10 18:21:05 UTC
From: rrmvargo@...
Topic: 50030 Message: 50030

I just posted a pic of the front subpanel of a TS830S that shows what screws not to remove when you (ignorantly and over zealously ;-)) try to remove this panel. It is a pain in the... I bought a non-working smashed parts unit & unfortunately, I got it to work. Which meant I had to fix it's appearance. I hate cannibalize radios. Seems sacrilegious, especially Kenwood Hybrids. Anyway, Kenwood did not stamp "do not remove" near these screws, which turn out to be ground screws with hidden wires soldered to them on the other side of the panel. They are identified on the exploded view in the SM but I did not find any warning.

Hopefully this will prevent the rework I had to do. My plan is to straighten out the panel & try to reassemble and then still have it work, but look presentable. - 73 Bob

50031. Re: [TS-520_820_530_830] How long to "tune" TS-820S?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-10 18:52:41 UTC
From: wagstw46@...
Topic: 50028 Message: 50031

In addition to shortening the life of the Final tubes by consistently leaving it key down for "long" periods of time in off resonance state you also subject the 12BY7A driver tube to stress. Not from off resonance, but simply key down time as it is running Class A and just about at the max of the plate current and screen grid current ratings.

Definition of "long" time will always be subjective. I have lost one Driver tube during testing of the RF drive voltage at the control grids of the Finals. During that testing I was measuring the RF drive on all the bands one at a time and I failed to let the Driver tube rest as I switched bands.

In your TS820 owners instruction manual under Transmitter Tuning Caution Note it says that if the plate current is much above 60ma to not leave the rig in Send for more than a "few seconds". Now the truth is if you do this it typically wont result in an "acute" failure, but it can lead to a "chronic" failure.

Note 2 in this same section says not to leave rig keyed "over a few minutes" or the Driver tube may be damaged. Not sure who wrote this, but I would never leave rig keyed for one minute let alone a "few minutes" even with the SG switch turned off. A real good way to lose the Driver tube. In 30 seconds the Driver tube shield will be too hot for you to touch. Tune mode does not change the Driver tube plate dissipation.

I cant imagine why it would take 30 seconds for an auto tuner to correct the reactance and present a match of course I have never owned one.

Terry K9TW

50032. RE: [TS-520_820_530_830] How long to "tune" TS-820S?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-10 17:39:45 UTC
From: David Boothe
Topic: 50028 Message: 50032

Dave and Joe,
Thanks for the prompt and helpful replies. Joe, I’m thinking the resonance thing takes care of itself.
When I leave the AT-600 in auto-tune mode and switch bands/antennas, the tuner doesn’t start until It gets RF from the radio, which doesn’t really happen until you dip the plate when tuning for the new band. Then the tuner kicks in. The tuner doesn’t usually activate when you are just tuning the drive for max deflection. If the tuner does start before I can dip the plate, I just immediately stop the tuning and put the tuner in manual until I dip the plate and get resonance and RF output.
Dave
KC3CIP

Moderator's note:
Message shortened
73
Mike W5RKL
Group Moderator

50033. Re: [TS-520_820_530_830] How long to "tune" TS-820S?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-10 19:24:30 UTC
From: Mike W5RKL
Topic: 50028 Message: 50033

Dave,

Your comments suggest that you tune your 820 transmitter into the tuner that's most likely not tuned to resonance. You should be tuning your 820 transmitter into a 50 ohm dummy load FIRST. Once the 820 transmitter is tuned properly, then switch the 820's output to the tuner's input and allow the tuner to adjust itself without you touching the 820's DRIVE, PLATE, and LOAD controls.

73
Mike W5RKL

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http://www.avast.com

50034. RE: [TS-520_820_530_830] How long to "tune" TS-820S?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-10 19:23:18 UTC
From: David Boothe
Topic: 50028 Message: 50034

Thanks, Terry. Helpful as always! I watch the plate current during the process and it is indeed pretty low. My main worry, just as you say, is the 12BY7A driver. I caught both references in the manual—you pay your money and take your chances, I guess.
Tuners are a reality in my world of multi-band attic antennas (G5RV jrs and trap dipoles—antenna restrictions), but it seldom takes more than a few seconds for a match. If the tuner struggles for more than a few seconds, it’s usually on a first match (no memory yet) or (worse) no match forthcoming.
Dave
KC3CIP

50035. RE: [TS-520_820_530_830] How long to "tune" TS-820S?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-10 19:55:10 UTC
From: David Boothe
Topic: 50028 Message: 50035

Mike,
I hear you—that is no doubt the best way to proceed. However, the Pro II doesn’t have a dummy load and connecting one would mean added switching, coax, space requirements, and general complexity. I have two dummy loads (the ‘Cantenna’ stays in the basement unless I’m doing amp work—too oily!). My MFJ manual tuner has a 100W load and could be switched in and out for the 820S (with above considerations), but the Pro II is very quick (< one second) once it’s got the settings in memory. Anyway, you’ve given me something to ponder and I will!
Dave
KC3CIP

50036. Re: [TS-520_820_530_830] Hybrid Net Update (November 9 , 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-11 02:21:18 UTC
From: mark wesley
Topic: 50023 Message: 50036

Wow, that hosted web site is nice,thanks,it's great to find you, as I stated I will be receiving my ts520 by the middle of November, I am reading the manual online now, looking for a watt meter also, I am a new licensed operator with 0/zero experience I will also need an antenna,I am excited about my new found adventure in amateur radio. Thanks for all you do.
Mark Wesley NG5ERC

this msg edited as it contined already posted material. 73 Joe wb7uqu

50037. Re: [TS-520_820_530_830] Hybrid Net Update (November 9 , 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-11 04:22:50 UTC
From: Tom k2bew
Topic: 50023 Message: 50037

Mark,
Congratulations on the ticket!
You will love the TS-520.
Personally I think you are a head of the game starting out with this rig and being new to amature radio.
It is fun to use and tune up, and you will learn more using it rather then a "plug and play" newer rig. I would encourage you, (as you said you already are), to read the manual and the service manual and really learn about this radio.
If you have not found it yet the one thing that helped me when I first started using mine, coming from a Yaesu 450d, was the following two explanations on how to tune up the radio.
The manual can be a little vague;
http://www.k4eaa.com/tune-up.htm http://www.k4eaa.com/tune-up.htm
http://www.hybridrestore.com/tuning-your-hybrid/
http://www.hybridrestore.com/tuning-your-hybrid/
Both these guys are on this list and not only a great source of information, but you can get many parts you may want or need for your radio from either of their websites, and they are great to do buisness with.
The thing I like best about the hybrids is you can work on it yourself. No surface mounted microscopic parts in there!
I just striped and pained the case of mine, and while I was at it pulled the VFO and cleaned and lubed everything, and cleaned all the switches.
This group has very knowledgeable people on it, (More so than me) who are very willing to help expalin anything you are not sure about.
73,
Tom K2BEW

this msg edited as it contained already posted material. 73 Joe wb7uqu

.

50038. TS-820S Digital Hold stupid!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-11 14:52:25 UTC
From: va3vfo@...
Topic: 50038 Message: 50038

Short reminder to self:
After cleaning and re-flowing board pins on DG-1 for intermittent random display problems, display continued to have lack of MHz digits with remaining KHz digits "locked," regardless of frequency or band change. Take apart. Add solder to via's, and topside IC pins on board etc...still had problem...

Re-reading through Group archives, saw info about inputs and controls for the DG-1 cct...Read two letters: "DH" digital hold....oh ya...totally forgot about that dam'd button! (especially forgot it normally does NOT display MHz digit- a big clue)

You'd think I'd be too embarrassed to admit this oversight..but now I will find this post when it happens to me again a second time!

50039. Re: TS-820S Digital Hold stupid!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-11 14:56:42 UTC
From: mike.allard42@...
Topic: 50038 Message: 50039

I did a similar thing in testing out my new-to-me TS-520... I spent 20 minutes trying to figure out why I couldn't tune in the SSB conversations that I could clearly hear on the other radio.

Until I realized I had forgotten that I had pushed the WWV button.

o.0

- Mike, K9MJA

50040. veterans day

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-11 15:52:21 UTC
From: Joseph Stiles
Topic: 50040 Message: 50040

Greetings Group!
 Today(and every day), tell a veteran thanks for making it possible to live ina free country. You WILL make their day!
Thanks for your service wherever you may be..... 73 Joe WB7UQUTS-520_820_530_830 Yahoo group Co-owner

50041. Re: [TS-520_820_530_830] Re: TS-820S Digital Hold stupid!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-11 15:54:30 UTC
From: Nathan Johnson
Topic: 50038 Message: 50041

Got myself yesterday tuning up a 530, wondering why the displayed freq changed on transmit.... Umm CW shift! Ashamed to admit I spent 10 mins trying to troubleshoot.

Nathan
KK4REY

Message text shortened, already posted text removed.
73
Mike W5RKL
Group Moderator

50042. Re: [TS-520_820_530_830] Re: TS-820S Digital Hold stupid!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-11 16:15:04 UTC
From: Mike W5RKL
Topic: 50038 Message: 50042

Nathan,

The TS-530 service manual has an excellent write up on how and why the TS-530 shifts. The discussion starts on page 3 in the service manual titled "Circuit Description". If you do not have the TS-530S service manual, you can download it from my website

www.w5rkl.com

Click on the Manuals, Docs, and Mods link at the top of the page. When the page comes up, scroll down to the TS-530S/SP listing and click on link #2.

73
Mike W5RKL
www.w5rkl.com

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

50043. Re: [TS-520_820_530_830] Re: TS-820S Digital Hold stupid!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-11 16:23:02 UTC
From: Nathan Johnson
Topic: 50038 Message: 50043

Pretty sure the radio is fine, I'm just not used to the radio showing the 800hz cw shift on the display. Just a simple case of a guy learning these radios... And insufficient coffee.

Nathan
KK4REY

50044. Re: [TS-520_820_530_830] Re: TS-820S Digital Hold stupid!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-11 17:25:05 UTC
From: John Davidson
Topic: 50038 Message: 50044

None of my radios (Kwd or Yaesu) show any change in display from RX to TX modes, unless the RIT is turned off zero.
I hear so many answers to my CQ so far off freq that I could miss them with the narrow filters on ! I Would Bet they are fiddling with RIT or XIT offsert to match the shifting display numbers between RX and TX modes !!!!
PLEASE READ THE MANUALS !!

My radio is Ham Radio...CW is Real Radio
73, John...K8JD

From: "'Nathan Johnson' jdownj@... [TS-520_820_530_830]"
<TS-520_820_530_830@yahoogroups.com>
To: TS-520_820_530_830@yahoogroups.com
Sent: Tuesday, November 11, 2014 11:23 AM
Subject: Re: [TS-520_820_530_830] Re: TS-820S Digital Hold stupid!

Pretty sure the radio is fine, I'm just not used to the radio showing the 800hz cw shift on the display. Just a simple case of a guy learning these radios... And insufficient coffee.

Nathan
KK4REY

50045. Re: [TS-520_820_530_830] Re: TS-820S Digital Hold stupid!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-11 18:11:03 UTC
From: wagstw46@...
Topic: 50038 Message: 50045

You must not own any KW hybrids with digital displays or have very little experience with them. By design the Transmit frequency shifts up 800 hz up and the digital readout displays that. Has absolutely nothing to do with the RIT. KW did this so the actual operating frequency is displayed.

On the TS530 and TS830s the VFO frequency shifts up 800 hz in CW mode. All you have to do is place the Mode switch in Tune and you will see the last digit go up 800. To make the math easy on yourself set VFO to 7.000 or 14.000 and place rig in Tune and you will then see 7.000.8 or 14.000.8. Assuming L4 in the VFO has been adjusted properly during alignment.

If you place the mode switch in CW mode you then have to flip to Send to see the digital display read up 800hz.

The TS820 works a little different (uses 3 Carrier Osc crystals same as the 520) and you have to flip to Send in both Tune and CW to see the digital display read up and most hit my bench with a 700hz up shift or .7 on the digital display.

Terry K9TW

50046. Re: [TS-520_820_530_830] Re: TS-820S Digital Hold stupid!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-11 18:31:23 UTC
From: John Davidson
Topic: 50038 Message: 50046

I have the original TS520/no S . I guess that's why it has 3 index marks over the round analog dial, one for USB, another for LSB and the center mark for CW. Now it makes sense. The TS440s was my first digital display and it took me a long time to get used to it but it doesn't shift Display numbers like the newer (old) Hybrids. When you tune in WWV it is right on 5.0000, 10.0000 or 15.000 ETC.... USB, LSB or AM mode.
Transmitting a CW Carrier is right on the freq. the display says !
Synthesyzer circuits give me a headache going way back to the days of the GE Phoenix and Motorola Syntor and Maxtracs.

My radio is Ham Radio...CW is Real Radio
73, John...K8JD

From: "wagstw46@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com>
To: TS-520_820_530_830@yahoogroups.com
Sent: Tuesday, November 11, 2014 1:11 PM
Subject: Re: [TS-520_820_530_830] Re: TS-820S Digital Hold stupid!

You must not own any KW hybrids with digital displays or have very little experience with them. By design the Transmit frequency shifts up 800 hz up and the digital readout displays that. Has absolutely nothing to do with the RIT. KW did this so the actual operating frequency is displayed.

On the TS530 and TS830s the VFO frequency shifts up 800 hz in CW mode. All you have to do is place the Mode switch in Tune and you will see the last digit go up 800. To make the math easy on yourself set VFO to 7.000 or 14.000 and place rig in Tune and you will then see 7.000.8 or 14.000.8. Assuming L4 in the VFO has been adjusted properly during alignment.

If you place the mode switch in CW mode you then have to flip to Send to see the digital display read up 800hz.

The TS820 works a little different (uses 3 Carrier Osc crystals same as the 520) and you have to flip to Send in both Tune and CW to see the digital display read up and most hit my bench with a 700hz up shift or .7 on the digital display.

Terry K9TW

50047. Re: [TS-520_820_530_830] Re: TS-820S Digital Hold stupid!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-11 19:13:00 UTC
From: wagstw46@...
Topic: 50038 Message: 50047

Yes the TS520 and 520S have three Carrier Oscillators. No such scribe marks required on the 820, 530, or 830 analog dials.

Yes with the digital display KW hybrid models if you tune to 10mhz or 15 mhz and listen to WWV the digital displays will display 10.0000 (530/830) and 15.0000 (820) in LSB, USB and CW modes. On the 530/830 if you place mode switch in Tune while listening to WWV you will see the digital display read 10.000.8. No reason to have mode switch in Tune in Rx mode.

As I mentioned and as Mike W5RKL directed the Service manual circuit descriptions explain why the transmit frequency is shifted up 800 hz and displayed properly as such.

Sometimes people have very low ALC indication when loading the radio requiring full open on the Car Level pot. I always ask if they have the CW filter installed. If so I first have them try peaking the ALC indication by adjusting the CW-T Carrier Oscillator trimmer cap (TC-1). Can usually improve the ALC indication when you get the Carrier Osc set to 8830.7 mhz which should be the center of the optional CW filter passband. However, this year I have had to replace at least 4 of the YG-88C 500hz CW filters as the Fc has shifted significantly. Beginning to get a bit nervous about being able to continue to find used pulls. Of course a crap shoot if they are any good.

Terry K9TW

50048. Re: [TS-520_820_530_830] Re: TS-820S Digital Hold stupid!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-11 21:59:35 UTC
From: Mike W5RKL
Topic: 50038 Message: 50048

John and others,

Quite a few transmitters and transceivers shift the VFO output frequency, depending on the MODE switch setting. For example, the Heathkit HW-100 and HW-101 VFO, I just happen to do a lot of Heathkit repairs and have the HW-101 and SB-100, SB-400 and SB-401 on hand. Heath calls their VFO's, LMOs (Linear Master Oscillator), and they all have a terminal on the rear labeled "BIAS". What the heck does the BIAS terminal do on a LMO (VFO)? If you had an HW-101, a frequency counter, and a DC volt meter, you would find out what it does.

The LMO bias terminal is fed a "positive" or "negative" DC voltage depending on the MODE switch position. The BIAS voltage is used to forward/reverse bias a diode inside the LMO and that diode, when biased properly, acts as a switch to add or remove a variable 3-30pf capacitor "shift" capacitor.

HW-101 LMO output based on the LMO BIAS voltage

LSB bias voltage is +50VDC TX/RX
USB/CW bias voltage is -70.8VDC RX and -62.8VDC TX

LMO (VFO) output frequency on ALL bands with dial set to 0. The LMO (VFO) output frequency will change when tuning up or down the bands BUT the LMO (VFO) frequency range does NOT change regardless of the band switch position! This is important to understand since the KW hybrid VFO frequency range does NOT change as some hams have been "misled" to believe.

LSB RX/TX = 5502.9Khz with +50VDC applied to the LMO's BIAS terminal
USB/CW RX/TX = 5500Khz with -70.8VDC applied to the LMO's BIAS terminal.
BIAS voltage is -8.6VDC less with MODE switch set to TUNE. The 8.6VDC difference in TUNE mode has no affect on the LMO's output frequency.

Members can do similar test on your 520. The VFO output signal is present on the rear panel's REMOTE VFO socket, pin 1 with ground on pin 2. Leave the 520's FUNCTION switch set to VFO (12 o'clock) position. A frequency counter connected to those pins will display the VFO output frequency without disconnecting the VFO output cable at the rear of the internal VFO. If you have the 9 pin jumper plug simply pull the plug and jumper pins 8 and 9 with a short piece of wire so the internal VFO has power then connect a frequency counter to the remote VFO socket's pin 1 with ground on pin 2. The counter should display the VFO output frequency (range is between 5.500Mhz at the low end of ALL bands to 5.000Mhz at the top of ALL bands).

73
Mike W5RKL

www.w5rkl.com

On 11/11/2014 12:31 PM, John Davidson k8jd@...
[TS-520_820_530_830] wrote:
> I have the original TS520/no S . I guess that's why it has 3 index
> marks over the round analog dial, one for USB, another for LSB and the
> center mark for CW. Now it makes sense.
> The TS440s was my first digital display and it took me a long time to
> get used to it but it doesn't shift Display numbers like the newer
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> the GE Phoenix and Motorola Syntor and Maxtracs.
> My radio is Ham Radio...CW is Real Radio
> 73, John...K8JD
>
> ---
> *From:* "wagstw46@... [TS-520_820_530_830]"
> <TS-520_820_530_830@yahoogroups.com>
> *To:* TS-520_820_530_830@yahoogroups.com
> *Sent:* Tuesday, November 11, 2014 1:11 PM
> *Subject:* Re: [TS-520_820_530_830] Re: TS-820S Digital Hold stupid!
>
> You must not own any KW hybrids with digital displays or have very
> little experience with them. By design the Transmit frequency shifts
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>
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> 7.000 or 14.000 and place rig in Tune and you will then see 7.000.8 or
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> alignment.
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> The TS820 works a little different (uses 3 Carrier Osc crystals same
> as the 520) and you have to flip to Send in both Tune and CW to see
> the digital display read up and most hit my bench with a 700hz up
> shift or .7 on the digital display.
>
> Terry K9TW
>
>
>

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http://www.avast.com

50049. Re: [TS-520_820_530_830] Re: TS-820S Digital Hold stupid!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-12 01:10:48 UTC
From: Tom k2bew
Topic: 50038 Message: 50049

Mike,

Great information. I was thinking of getting one of these digital readouts for my TS-520;
http://www.electronicspecialtyproducts.com/dd103.html
http://www.electronicspecialtyproducts.com/dd103.html

It plugs into the remote VFO socket in the back.
So, it sounds like your description of using a frequency counter to get the VFO readout from that output is exactly how this device works, and if so it sounds extremely easy to just use a cheap frequency counter and put it in a home-brew box and hook it up myself the way you describe, and I will have essentially the same exact thing a lot cheaper. And segwaying that into Terry's discussion of the three carrier oscillator crystals in the 520 for CW, LSB, or USB that displayed frequency output would be my actual operating frequency depending on what mode I select. Correct?

Thank you and 73, Tom Bewick, K2BEW

50050. Re: [TS-520_820_530_830] Re: TS-820S Digital Hold stupid!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-12 01:31:12 UTC
From: Tom k2bew
Topic: 50038 Message: 50050

Sorry one other question on the output of the VFO and the discussion of the off set.

This simple counter from Hendricks QRP kits looks like it would work well and it has the ability to read the VFO of a radio and it has an adjustable off set to display the actual operating frequency.
http://www.qrpkits.com/freqcounter.html http://www.qrpkits.com/freqcounter.html

Would this be what I would want for this application to be able to read my operating frequency off the the external VFO output on the TS-520?

Thank you,
Tom Bewick, K2BEW

50051. Re: [TS-520_820_530_830] TS-520 Too much drive?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-12 01:58:04 UTC
From: Nathan Johnson
Topic: 49981 Message: 50051

Well this is embarrassing... Found some kind of mod hidden in the front panel wire harness. Not really sure who, how, or why, but it was a voltage divider supplying a fixed CAR signal. This is a formerly-rednecked radio, but had stock crystals, so I hadn't expected to find this level of inexplicable modification. The pot tests fine, so it wasn't bypassing a bad pot.

In the process of reversing this... Stay tuned...

Nathan
KK4REY

50052. Re: [TS-520_820_530_830] Re: TS-820S Digital Hold stupid!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-12 04:11:13 UTC
From: W5RKL
Topic: 50038 Message: 50052

Tom,

I do not have any experience with the DD103 digital display. Therefore I will not make a comment on it's use. I think hams today rely entirely too much on digital displays.

The KW hybrids also have analog dials. The analog dial number is added to the band switch setting to determine what the frequency is. The analog dial covers the entire 500Khz of each band the transceiver is designed to operate on. For example, if the TS-520 band switch is set to 3.5 and the analog dial is set to 100, what frequency is the 520 tuned to? It's easy, the "100" is the Khz segment of the dial while the 3.5 is the Mhz segment of the dial. You add .100 to 3.5 and you get 3.6. The analog dial starts at 0 which is the bottom end of ALL bands. If the band switch is set to 3.5 and the VFO analog dial is 0, what is the frequency the 520 is tuned to? Again, it's easy, add 7.0 to 0 and you get "7.0". Move the analog dial to the first small tick mark, that's "25" then add .025 to 7.0 and you get 7.025. it's easy, one just has to learn how to use it.

I think you misunderstood what I was trying to say. You cannot use a simple frequency counter such as a Sinometer VC-2000 or Heathkit IM-4100 as a digital display by connecting either counter to the TS-520's remote VFO socket pins 1 and 2. If you were to connect a Sinometer VC-2000 or a Heathkit IM-4100 frequency counter to the remote VFO output socket, pin 1 and 2, on your TS-520, all you would see on the frequency counter would be the VFO output frequency which would be a frequency between 5.500Mhz and 5.000Mhz, depending on where you tuned the VFO dial to. The VFO in the KW TS-520 has a tuning range between 5.500Mhz and 5.000Mhz and that tuning range does NOT change to another tunng range when the band switch is changed.

I recommend you spend some time studying how the 520 stages work together to process both receive and transmit signals. The VFO is only one of many oscillators in the 520 and it is used in both transmit and receive.

73
Mike W5RKL
www.w5rkl.com

On 11/11/2014 7:10 PM, Tom k2bew tombewick@...
[TS-520_820_530_830] wrote:
> Mike,
>
> Great information. I was thinking of getting one of these digital

> readouts for my TS-520;
> http://www.electronicspecialtyproducts.com/dd103.html
> It plugs into the remote VFO socket in the back.
> So, it sounds like your description of using a frequency counter to
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> depending on what mode I select. Correct?
> Thank you and 73, Tom Bewick, K2BEW
>
>
>
>

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http://www.avast.com

50053. Re: [TS-520_820_530_830] veterans day

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-12 03:39:05 UTC
From: Tom k2bew
Topic: 50040 Message: 50053

Thank you Joe,
I posted this on my blog today;

My son Joshua is a boyscout in Troop 114 in Valatie, NY, and they host a 5K run in our village of Valatie, NY every Veteran's Day that is followed by a ceremony in the town park to honour veterans and is hosted by the VFW.
It was my honour to be asked as a veteran to stand with the brave men and women from our village that are veterans going back to WW2. I was humbled and felt inadequate. I was an Army nurse in the reserves and I was mobilized to active duty during the war in Afghanistan for a year and sent to Ft. Sill Oklahoma where I worked in the ICU and cared for soldiers and their families, many of whom were just back from the theatre of war. I had joined the Army with the intention of going to Iraq or Afghanistan to take care of soldiers in theatre, but found myself in Oklahoma instead. I felt like I did not do enough, and not what I signed up for, but in retrospect I feel I did that which I had signed up to do, and I took care of soldiers, it does not matter where I was.

My wife and I recently went on a trip to Hawaii for our 25th anniversary in October 2014 and we had the opportunity to visit Pearl Harbor and go to the Arizona Memorial. As I stood today in the village park with those Veterans I was pondering how I felt standing at the Arizona as I looked down into the water at that rusting wreckage of that great ship. I thought of those who lost their lives in service of our country that were on board. As I stood there I could smell the oil that was bubbling out of the wreckage to the surface of the water. The park ranger there said a quart of oil a day leaks from the ship and is considered by Veterans of the war to represent the tears of those who died.
I took this picture from that spot, you can see the oil slick;
https://2.bp.blogspot.com/-orWRRJrhDGQ/VGK9KerzCfI/AAAAAAAAgLc/OwdDWa3WGWk/s1600/100_2081.JPG
(The above oil slick picture is copied into the email, but probably will be striped off in yahoo, you can see it here if it does not make it;
http://k2bew.blogspot.com/2014/11/veterans-day-2014.html
http://k2bew.blogspot.com/2014/11/veterans-day-2014.html)

So, This Veterans Day, whether or not you served, or not, and whether or not you went to war, or not ,we can all honour and remember those who have served and made the ultimate sacrifice, and continue to serve ourselves in whatever capacity we are able, and wherever we find ourselves.
Blessings and 73,
Tom K2BEW

this msg edited as it contained already posted material. 73 Joe wb7uqu

50054. RE: [TS-520_820_530_830] NOS RL1 /RL2 for 520 820 Rigs

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-12 08:11:09 UTC
From: Les Zwiebel WB6ORZ
Topic: 50006 Message: 50054

Hi, Mark. Sorry about the delay. My check to you is going out tomorrow morning.

(((73)))

Les

Leslie Zwiebel

208 Stanford Avenue

Menlo Park, CA 94025

From: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com]
Sent: Saturday, November 08, 2014 11:55 AM
To: TS-520_820_530_830@yahoogroups.com
Subject: [TS-520_820_530_830] NOS RL1 /RL2 for 520 820 Rigs

In 1981, I purchased MY first new rig TS-520SE. A sage OT Elmer advised I should buy spare relays for the rig at that time. In 1982, Kenwood of Compton.CA shipped me the following parts:

S51-4016-15 TS-520S RELAY / RL1

S51-4017-15 TS-520S/820S RELAY /RL2

They have sat in un-opened plastic bags, as packed by Kenwood since then

in a shipping box, lost at the back of the ham shack cabinets. Not so sage

advice I would say given the durability and longevity of the hybrid kenwoods

and probably being suitable for decades of relay cleaning before replacements.

Nonetheless, brand new original relays of > 30 yrs for sale - $40 for the pair plus $5.95 shipping priority USPS. They're going up on swap boards soon, and just wanted to start here first with crowd restoring and fixing these.

73, Mark de wo7t@...

50055. TS-820S wrong frequency on digital display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-12 09:33:42 UTC
From: oh3gd@...
Topic: 50055 Message: 50055

Gentlemen,

I noticed some days ago that digital read out of my TS-820S is indicating wrong frequency on 21 and 28 MHz bands. It is 4 kHz below on 21 MHz and about 10 kHz below on 28 MHz. However, VFO-dial and xtal-calibration signal are indicating the correct frequency (btw, matches to reverse beacon results too). Does this ring the bells to anyone? What would you suggest?

73 Kari OH3GD

50056. Re: TS-820S Digital Hold stupid!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-12 07:42:07 UTC
From: beeson.neil@...
Topic: 50038 Message: 50056

The DD-103 is only as good as when you calibrated to your radio. It doesn't come calibrated it take you about 10 minutes to do it. I know as I own one, see my pics in the photo section Neil
VK6NSB

50057. Re: [TS-520_820_530_830] Re: TS-820S Digital Hold stupid!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-12 09:44:36 UTC
From: Tom k2bew
Topic: 50038 Message: 50057

Mike,
Thanks for the explanation, I think I understand now what you mean now about the 5.000 mHz -5.500 mHz. tuning range. Similar to an AA5 AM tube radio with an IF of 455, it does not change from the 5.000mHz except it has a 500kHz range it travels through that coincides with the tuning range of the VFO.
I was debating if it would be a good idea of getting one of those digital readouts anyway because I am thinking of getting the external VFO so I can work split, and if I have a frequency counter plugged in to the output all the time I will not be able to do that.
I am going back through the service and regular manual and studying how the stages and oscillators all work too. This has been a good discussion.
I do understand the basics of how the analogue frequency is displayed, I have used it a while now, I just thought it would be nice to have a digital read out, and the Kenwood DG-5 and matching installation kit seems to be hard to find and usually go for a lot more then they are worth.
73,
Tom K2BEW

50058. Deaf 830S/Calibrator signal level?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-12 14:59:05 UTC
From: dmueller421@...
Topic: 50058 Message: 50058

HI All,
I was given a TS-530S that's been in a closet for some time needing repair. The receiver is mostly deaf. I can hear the calibrator signals but they are barely audible. How loud should they be?

I haven't checked TX yet but was told there is no power out.

Any suggestions would be welcome, I'm not used to dealing with these really big parts haha.

73
Dave AA3EE

50059. Re: [TS-520_820_530_830] Deaf 830S/Calibrator signal level?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-12 15:39:06 UTC
From: Mike W5RKL
Topic: 50058 Message: 50059

Dave,

You did not say whether you have the TS-530 service and operator's manual or not. If you do not have both manuals then I recommend you download them and spend time studying them first before you attempt to service and operate your newly acquired TS-530. You can download both manuals from my website

www.w5rkl.com

Also, you did not specify what test equipment, if any, you have and what electronic troubleshooting knowledge and skills you have in servicing complex electronic equipment such as the TS-530.

73
Mike W5RKL
www.w5rkl.com

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http://www.avast.com

50060. Re: [TS-520_820_530_830] Deaf 830S/Calibrator signal level?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-12 15:40:38 UTC
From: Mike W5RKL
Topic: 50058 Message: 50060

The reference to TS-530 should be "TS-830, sorry about that!!

73
Mike W5RKL
www.w5rkl.com

On 11/12/2014 9:39 AM, Mike W5RKL w5rkl@... [TS-520_820_530_830]
wrote:
>
> Dave,
>
> You did not say whether you have the TS-530 service and operator's
> manual or not. If you do not have both manuals then I recommend you
> download them and spend time studying them first before you attempt to
> service and operate your newly acquired TS-530. You can download both
> manuals from my website
>
> www.w5rkl.com
>
> Also, you did not specify what test equipment, if any, you have and
> what electronic troubleshooting knowledge and skills you have in
> servicing complex electronic equipment such as the TS-530.
>
> 73
> Mike W5RKL
> www.w5rkl.com
>
>
>
> ---
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50061. RE: [TS-520_820_530_830] TS-820S wrong frequency on digital display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-12 15:57:25 UTC
From: David Boothe
Topic: 50055 Message: 50061

Kari,
It seems the digital display is a bit the Achilles heel of the TS-820s. I had an issue with mine with wrong readings as well, but mine were a fixed offset on all bands, not just 21 and 28 mHz. The display would track the VFO changes, but the offset was always there and was different on each band. It turns out that mine was the result of a bad divider chip in the DG-1 unit that controls the display.

I'm told though that a bad chip or other part is usually not the cause of the display issues with the 820S. It's usually a need to clean the Molex contacts to the DG-1 unit in the radio (there's one on the top and bottom of this unit, located by the VFO in the radio) or has to do with deteriorating or just bad solder joints on the boards, especially the "through hole" connectors. Just google "TS-820S display problem" and you'll see quite a bit of guidance on this issue (I've read them all).

Also, there are experts on this Board who know a lot more than I do about it and may want to comment as well. You are not alone—these display problems are apparently pretty common with the 820S.

Dave
KC3CIP

50062. Re: [TS-520_820_530_830] Re: TS-820S Digital Hold stupid!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-12 18:10:47 UTC
From: Mike W5RKL
Topic: 50038 Message: 50062

Tom,

I uploaded a video to my website explaining how a simple "single conversion" AM receiver processes and converts a 550Khz signal from the antenna to the speaker. Simply go to my website

www.w5rkl.com

then click on the Video page link at the top of the page. When the Video page comes up, scroll down to the "Simple AM receiver signal processing" and click on link #1. The video explains in simple terms how the receive signal, 550Khz in this case, is processed from the antenna to the speaker.

After you watch the video, try to determine what the Local Tunable Oscillator tunable frequency range would be in order to tune from 540Khz to 1700Khz (the expanded broadcast band).

Also, if the tunable oscillator tunes 455Khz "below" the receive signal, what signal frequency would the tunable oscillator have to be set/tuned to in order to receive WLS, 890Khz, out of Chicago??

What approximate signal frequency would you expect to see at the output of the mixer shown in the video with the receiver tuned to receive WLW, 700Khz, out of Cincinnati, Ohio??

73
Mike W5RKL
www.w5rkl.com

On 11/12/2014 3:44 AM, Tom k2bew tombewick@...
[TS-520_820_530_830] wrote:
> Mike,
> Thanks for the explanation, I think I understand now what you mean now
> about the 5.000 mHz -5.500 mHz. tuning range. Similar to an AA5 AM
> tube radio with an IF of 455, it does not change from the 5.000mHz
> except it has a 500kHz range it travels through that coincides with
> the tuning range of the VFO.
> I was debating if it would be a good idea of getting one of those
> digital readouts anyway because I am thinking of getting the external
> VFO so I can work split, and if I have a frequency counter plugged in
> to the output all the time I will not be able to do that.
> I am going back through the service and regular manual and studying
> how the stages and oscillators all work too. This has been a good
> discussion.
> I do understand the basics of how the analogue frequency is displayed,
> I have used it a while now, I just thought it would be nice to have a
> digital read out, and the Kenwood DG-5 and matching installation kit

> seems to be hard to find and usually go for a lot more then they are
> worth.
> 73,
> Tom K2BEW
>
>

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50063. Re: Deaf 830S/Calibrator signal level?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-12 19:46:04 UTC
From: wagstw46@...
Topic: 50058 Message: 50063

Do you have the RF gain full CW and the Drive control peaked for the VFO frequency setting?

If so should be able to adjust the VFO and see S9 or better Marker signal indication.

Is just the Marker low or off air signals as well? I assume off air as well. Can you inject RF into the SO-239?

Could be lots of issues.
1. Bad molex connection at RF or IF board
2. Open L41 ant step-up transformer
3. Bad or mis-adjusted low voltage supply (9vdc regulated and RF-1)
4. Dirty/bad RL-1 Aux relay contacts

Anytime you have deaf receiver need to break it into basic receiver building blocks.

Low voltage power supplies easy to check with VTVM or DMM. OK to measure at the Audio board TPs to verify that you have 9vdc regulated and 3.2VDC RF-1. However, need to verify it is at where it likes to be used. Just because you have it at its source doesnt mean it is making it to the loads.

Easiest stage to verify good is Audio. If good Audio stage then move on to the IF board. Inject 8.830 RIF and if good then you know problem is on RF board or the path from the SO-239 (in the case of off air signals). Go to RF board and inject actual Rx frequency at TP-1. If dead then inject at Wiper of S1-2. If receiver comes alive then you know L41 is bad.

These are just some examples and not meant to be exhaustive methodology.

With basic test gear (RF sig gen, Audio gen, VTVM etc) can typically isolate problem to a stage in matter of minutes. Then focus troubleshooting at that stage.

Do easy stuff first like wiggling molex connectors.

Best to study the Block Diagram to understand the receiver signal path. Then look at schematic to determine which Molex connectors to wiggle. Short of doing that I guess you wiggle them all. I would not plug and unplug all at this juncture as some would advise.

Terry K9TW

50064. Test Equipment Shopping

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-12 20:40:28 UTC
From: Nathan Johnson
Topic: 50064 Message: 50064

Hello All,
I am doing more and more repairs lately, and starting to think that I need more test equipment. I'll list below what I have now... I'm thinking that a VTVM is probably a logical next step... No, a fancy service monitor or all-in-one test set is not in the budget:)

What I have:
Fluke 27(Basic DMM)
ESR Meter(Cheap one but it works)
Tek 7704 scope
Leader 70Mhz frequency counter
Heathkit Cantenna Dummy Load
Bird 43
Hong Kong/ebay special sig gen

I am thinking that a VTVM is a logical next step, particularly since a meter with higher input impedence than the fluke seems to be nescessary to fully align the Kenwood hybrids.
 Do you agree? Any recommendations for a specific models?

Nathan
KK4REY

–
Sent from Mailbox

50065. Re: [TS-520_820_530_830] Test Equipment Shopping

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-12 21:37:15 UTC
From: Wes Will
Topic: 50064 Message: 50065

> I am thinking that a VTVM is a logical next step,
>
> Nathan
> KK4REY

Concur. Get a VTVM as soon as you can find a decent one in a price you can afford. Invaluable for these radios. Can't take a lot of measurements without one.

A swept signal generator might be next. (You don't mention if it has sweep functions, just that it's a basic Chinese model.) A step attenuator might help along the line for precision calibration, as another thing to think about.

--
Wes Will
SysAdmin
N9KDY

50066. RE: [TS-520_820_530_830] Test Equipment Shopping

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-12 22:08:07 UTC
From: John
Topic: 50064 Message: 50066

I have a surplus VTVM here. Works just fine. I don't service anything anymore so I do not need it . Also have the manual. $25.00 split shipping John KB9PBM
-------- Original message --------
From: "'Nathan Johnson' jdownj@gmail.com [TS-520_820_530_830]"
Date:11/12/2014 14:40 (GMT-06:00)
To: TS-520_820_530_830@yahoogroups.com
Subject: [TS-520_820_530_830] Test Equipment Shopping

Hello All, I am doing more and more repairs lately, and starting to think that I need more test equipment. I'll list below what I have now... I'm thinking that a VTVM is probably a logical next step... No, a fancy service monitor or all-in-one test set is not in the budget:) What I have: Fluke 27(Basic DMM) ESR Meter(Cheap one but it works) Tek 7704 scope Leader 70Mhz frequency counter Heathkit Cantenna Dummy Load Bird 43 Hong Kong/ebay special sig gen I am thinking that a VTVM is a logical next step, particularly since a meter with higher input impedence than the fluke seems to be nescessary to fully align the Kenwood hybrids. Do you agree? Any recommendations for a specific models? Nathan KK4REY — Sent from Mailbox

50067. Re: [TS-520_820_530_830] Test Equipment Shopping

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-12 22:21:20 UTC
From: Mike W5RKL
Topic: 50064 Message: 50067

There are plenty of Heathkit VTVMs being sold on eBay. Some sellers say, for example, a Heathkit IM-21 is a VTVM. Well it is "sorta". You just have to understand that an IM-21 is an "AC" volt meter that uses vacuum tubes and measures AC voltage. It has no way to measure resistance and DC voltages.

Many VTVM do not come with probes but you can make them yourself. You will need a 1Meg probe when measuring DC voltages but a straight through probe when measuring AC voltages. You can add a 1Meg resistor in some of those Chinese probes by cutting the red lead about 4 inches back from the probe handle and insert a 1Meg 1/2 watt resistor in the probe's wire then cover with heat shrink tubing. Old hollow plastic probes with the screw on nut at the tip are excellent for making probes. I made my 1 meg DC probe using one of those. Simply unscrew the nut at the tip of the RED probe, pull the wire out, then solder a 1meg 1/2 watt resistor to the probe RED wire then feed the other resistor lead through the probes body so it protrude out the tip. When the resistor lead pokes through the tip, pull the lead until the resistor body seats against the probe's end. Cut the lead so the remaining lead can be wrapped around the probe and the nut attached. That's all there is to making a 1meg VTVM probe. I have a 3 VTVMs, 2 Heathkit and one Eico, all analog. I prefer analog VTVMs when perform alignment adjustments, the peaks are much easier to see with an analog meter.

You will need an RF probe. Either the Heathkit 309 RF probe or you can make one yourself, lots of schematics on how to make one can be found on the web. Use "make an RF probe" as your search phrase.

I would find another signal generator, those Chinese generators do not have any way to regulate the signal level. If you use it then I agree with Will, a step attenuator can reduce the signal level. I use a URM-25 and a Heathkit IG-102, they both work very well.

I thought I would only need 1 frequency counter. Wrong!! I found 2 are much better. I use a Sinometer VC-2000 and a Heathkit IM-4100. I needed one to monitor the sig gen output frequency and one to monitor the radio's oscillator frequency, both at the same time.

You should have a couple of lantern batteries, 6VDC found at Walmart, so you can use them as a substitute for loss of +/- 6VDC when needed.

I have a video on my website that shows some basic test equipment I have on my bench.

www.w5rkl.com

Click on Video link at the top and scroll down to the test equipment
video link.

73
Mike W5RKL
www.w5rkl.com

On 11/12/2014 2:40 PM, 'Nathan Johnson' jdownj@...
[TS-520_820_530_830] wrote:
>
> Hello All,
>
>
> I am doing more and more repairs lately, and starting to think that I
> need more test equipment. I'll list below what I have now... I'm
> thinking that a VTVM is probably a logical next step... No, a fancy
> service monitor or all-in-one test set is not in the budget:)
>
> What I have:
> Fluke 27(Basic DMM)
> ESR Meter(Cheap one but it works)
> Tek 7704 scope
> Leader 70Mhz frequency counter
> Heathkit Cantenna Dummy Load
> Bird 43
> Hong Kong/ebay special sig gen
>
> I am thinking that a VTVM is a logical next step, particularly since a
> meter with higher input impedence than the fluke seems to be
> nescessary to fully align the Kenwood hybrids. Do you agree? Any
> recommendations for a specific models?
>
> Nathan
> KK4REY
>
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>

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50068. Re: [TS-520_820_530_830] Test Equipment Shopping

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-12 22:28:32 UTC
From: Mike W5RKL
Topic: 50064 Message: 50068

I thought I included this statement about the Chinese DDS signal generators but I see I left it out.

Those Chinese signal generators have no means of modulating the RF signal and the digital displays are not accurate. I have a few of the Chinese DDS signal generators here and found the digital display would show 7.125Mhz but when I checked the generator's output with my 2 frequency counters, the output frequency was from 2 to 5Khz off frequency. I also have also used an N3ZI DDS VFO as a signal generator in a pinch. It's more accurate then those Chinese DDS generators but again you have to pay attention to the output frequency. I use a N3ZI DDS VFO to control my modified 11 meter Johnson Messenger 223 on 10 meter AM.

73
Mike W5RKL
www.w5rkl.com

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http://www.avast.com

50069. Re: [TS-520_820_530_830] TS-820S wrong frequency on digital display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-12 22:34:06 UTC
From: John Davidson
Topic: 50055 Message: 50069

Did you set your calibrator Xtal trimmer with a known freq standard on the air latley? I had to reset my TS520 calibrator about once a year to keep it accurate.

My radio is Ham Radio...CW is Real Radio
73, John...K8JD

From: "oh3gd@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com>
To: TS-520_820_530_830@yahoogroups.com
Sent: Wednesday, November 12, 2014 4:33 AM
Subject: [TS-520_820_530_830] TS-820S wrong frequency on digital display

Gentlemen,
I noticed
some days ago that digital read out of my TS-820S is indicating wrong
frequency on 21 and 28 MHz bands. It is 4 kHz below on 21 MHz and about 10 kHz
below on 28 MHz. However, VFO-dial and xtal-calibration signal are indicating
the correct frequency (btw, matches to reverse beacon results too). Does this
ring the bells to anyone? What would you suggest?
73 Kari
OH3GD

50070. 830S S meter not responding to signals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-12 22:39:21 UTC
From: rrmvargo@...
Topic: 50070 Message: 50070

Hi All,

I am trying to revive a 1M SN 830S that got smashed. I repaired all the structural damaged and it is looking OK now.

Unit seems to receive well, but no S Meter reading. Meter responds to VR2 & 3, and RF Gain. Does not respond to any received signals or Cal signal. The damage was in the area of the Mic connector & the meter selector switch was undamaged.

For what ever it’s worth, the transmitter is not working. I need to update some cage parts.

Looking at the block diagram, the S signal comes from the IF Amp & RF Amp.
I attempted to search the archives, to no avail. Starting point? Q11 & Q12? Thanx – Bob W8RMV

50071. Re: 830S S meter not responding to signals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-13 02:03:34 UTC
From: wagstw46@...
Topic: 50070 Message: 50071

Bob

If S meter goes up scale when you turn RF gain pot down then why would you suspect Q11/Q12? Gate of Q11 is hanging on AGC bus all the time. When it sees AGC bus voltage go down when you turn down the RF gain it and the meter driver Q12 drive the meter up scale.

So ask your self what drives the AGC bus voltage down with the off air signal or Marker signal?

Look at last IF amp Q8 and you will see sample of IF signal is buffered by Q9 and then detected by AGC detector diodes D18 and D19. The dc output is used to bias on Q10 AGC amp. Its collector is hanging on the AGC bus and when it turns on it pulls the bus voltage down. So off air and marker signals are detected and used to control the AGC amp which is used as a variable load to pull down the AGC bus to reduce the gain of all the gain controlled devices (is the control or servo voltage for Gate 2 of the dual gate mosfet amps).

So it would seem that the AGC detector diodes and AGC amp are not working. Do you notice a difference when you switch from AGC Slow to AGC Fast?

Not often that AGC detector diodes go bad or Q10 fails but is possible.

Is it possible that AGC switch is stuck in the AGC OFF position? If stuck in OFF strong signals will distort.

Also, need to make sure you have good -6vdc at Conn 3 on IF board and at Emitter of Q10 and anode of D18. The -6vdc is used to back bias the detector diodes to establish the AGC threshold.

Terry K9TW

50072. Re: 830S S meter not responding to signals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-13 02:36:02 UTC
From: rrmvargo@...
Topic: 50070 Message: 50072

Thanx Terry. I am not the expert you are (obviously). I went back & studied the schematic some more & thought the same thing as I looked at Q11/12, but wasn't totally sure. I kinda convinced myself that if Q12 was still good I could get movement from the pots.

Good catch on the AGC, it does not seem to make a difference. The radio is on a compromised antenna in my basement so the AGC not working didn't really stand out. I will investigate the AGC items & the -6VDC you suggest & report back. Thanx again. - 73 Bob

50073. Re: Hybrid Net Update (November 9 , 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-13 03:21:44 UTC
From: weslugo@...
Topic: 50023 Message: 50073

Hello, this may be an elementary question for some but I am new to amateur radio, here goes, can I use a DOSY 4001p wattmeter on my soon to be here Kenwood ts520? Thanks Mark KG5ERC

50074. Re: [TS-520_820_530_830] Test Equipment Shopping

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-12 23:54:12 UTC
From: bauertom@...
Topic: 50064 Message: 50074

Mike, Nathan,

The Heathkit IM-18 might be a good VTVM choice, at least as a starter.

I found one at a local ham fest about a month ago. Stickered for $10. Paid $5 because the power cord was missing the ground lug, the AC-DC probe lead wires were cracked and brittle and the Ohm adjust pot was frozen. Came with original assembly manual (these are copy write protected now and cost about $20 to buy).

Fixed all issues, including the frozen pot, for no cost with parts on hand. Recapped it with four hard to find caps from wjoe.com for $2.50 plus shipping.

Found a pristine Heathkit RF probe on eBay for $27.50. Total investment <$40 for a like new meter complete with AC-DC and RF probes.

Tom

remember to properly sign your posts... name & call (if any) tnx Joe wb7uqu

50075. Re: [TS-520_820_530_830] Test Equipment Shopping

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-13 00:32:50 UTC
From: Nathan Johnson
Topic: 50064 Message: 50075

I do fully understand that that signal generator is worth no more than I paid for it(next to nothing)... It has helped a few times, but I will be replacing it with something better in time.

Nathan

KK4REY

_
Sent from Mailbox

On Wed, Nov 12, 2014 at 4:30 PM, Mike W5RKL w5rkl@...

[TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com> wrote:

> I thought I included this statement about the Chinese DDS signal
> generators but I see I left it out.
> Those Chinese signal generators have no means of modulating the RF
> signal and the digital displays are not accurate. I have a few of the
> Chinese DDS signal generators here and found the digital display would
> show 7.125Mhz but when I checked the generator's output with my 2
> frequency counters, the output frequency was from 2 to 5Khz off

> frequency. I also have also used an N3ZI DDS VFO as a signal generator
> in a pinch. It's more accurate then those Chinese DDS generators but
> again you have to pay attention to the output frequency. I use a N3ZI
> DDS VFO to control my modified 11 meter Johnson Messenger 223 on 10
> meter AM.
> 73
> Mike W5RKL
> www.w5rkl.com
> ---
> This email is free from viruses and malware because avast! Antivirus protection is active.
> http://www.avast.com

50076. Re: [TS-520_820_530_830] Re: Hybrid Net Update (November 9 , 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-13 03:45:43 UTC
From: Joseph Stiles
Topic: 50023 Message: 50076

Mark,
  I would steer clear. I looked around and it seems that this meter is for the "CB" gang. There's even a YouTube video from "CB Magazine" showing how to use it. It would probably be fairly accurate on 10 meters, but the other bands, I sincerely doubt it. I mean come on, a meter with a " 0 - 4000" watt scale!
 73 Joe
WB7UQU

On Wednesday, November 12, 2014 7:26 PM, "weslugo@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

  Hello, this may be an elementary question for some but I am new to amateur radio, here goes, can I use a DOSY 4001p wattmeter on my soon to be here Kenwood ts520? Thanks Mark KG5ERC

50077. Re: [TS-520_820_530_830] Test Equipment Shopping

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-13 03:56:19 UTC
From: Mark Gilger
Topic: 50064 Message: 50077

I have an IM-28 and a IM-5228 that I've been very happy with both of their performances. Being able to hang them under a shelf helps keep the clutter on the to a minium.

Mark, WB0IQK

50078. Re: [TS-520_820_530_830] Test Equipment Shopping

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-13 04:17:41 UTC
From: John Davidson
Topic: 50064 Message: 50078

What do they do?

My radio is Ham Radio...CW is Real Radio
73, John...K8JD

From: "Mark Gilger mgilger@brightdsl.net [TS-520_820_530_830]"
<TS-520_820_530_830@yahoogroups.com>
To: TS-520_820_530_830@yahoogroups.com
Sent: Wednesday, November 12, 2014 10:56 PM
Subject: Re: [TS-520_820_530_830] Test Equipment Shopping

I have an IM-28 and a IM-5228 that I've been very happy with both of
their performances. Being able to hang them under a shelf helps keep
the clutter on the to a minium.

Mark, WB0IQK

50079. Re: [TS-520_820_530_830] Test Equipment Shopping

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-13 06:18:49 UTC
From: Wes Will
Topic: 50064 Message: 50079

> I have an IM-28 and a IM-5228 that I've been very happy with both of

> What do they do?

Vacuum tube volt ohm milliammeters, Heathkit brand, kit form when new,
Both of these are the "Bench" type cases, wider than they are tall, with
the meter movement on the left and the function switches to the right.
Both have a bail under the front edge so they can sit tilted toward the
viewer to make it easier to see the reading. They can also be mounted
underneath a shelf or something to keep from using any benchtop space
at all.
--
Wes Will
SysAdmin
N9KDY

50080. Re: [TS-520_820_530_830] Test Equipment Shopping

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-13 06:22:04 UTC
From: Wes Will
Topic: 50064 Message: 50080

> I have an IM-28 and a IM-5228 that I've been very happy with both of

> What do they do?

Vacuum tube volt ohm milliammeters, Heathkit brand, kit form when new,
Both of these are the "Bench" type cases, wider than they are tall, with
the meter movement on the left and the function switches to the right.
Both have a bail under the front edge so they can sit tilted toward the
viewer to make it easier to see the reading. They can also be mounted
underneath a shelf or something to keep from using any benchtop space
at all.
--
Wes Will
SysAdmin
N9KDY

50081. Re: TS-820S wrong frequency on digital display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-13 07:43:36 UTC
From: oh3gd@...
Topic: 50055 Message: 50081

Thanks for responding Dave and John.

Yes, as told before, the xtal-calibrator is on the frequency. If the frequency is checked with an accurate signal generator, the display shows wrong frequency indeed. The solder joints and connectors are checked many times before, but haven´t done it once again lately. Thing is: a) the shift is constant and steady b) only on two bands c) the real operating frequency seems to be ok. This seems to me a bit tricky combination. Perhaps this issue sounds familiar to someone in this forum and could lead to find a right solution.

Kari OH3GD

50082. Re: [TS-520_820_530_830] Test Equipment Shopping

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-13 13:16:09 UTC
From: Mark Gilger
Topic: 50064 Message: 50082

Thanks Wes, I should have gone into more detail with the Heathkit VTVM's.

Mark, WB0IQK

50083. TS-530 Repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-13 06:23:44 UTC
From: Nathan Johnson
Topic: 50083 Message: 50083

So this is a different kind of post, I'm not asking for help. I picked up this TS-530S from Craigslist locally. I pulled the covers for a basic safety check before powering. I'm glad I did! I shot two short videos of the checkout.

Part 1:
http://youtu.be/y7xWe434sxw

Part 2:
http://youtu.be/lmQad4KA7Bw

I found the previous owner(s) had made several dubious modifications and repairs.

There were two additional filters installed on a piece of perfboard and pigtailed in place. I am aware that this is a method of installing filters that are not the correct form factor, but in this case the soldering was horrible. I removed them(of course I saved them).

One of the two HV caps had been replaced with a much older/much larger cap mounted upside down. HV wires were pinched and splices not insulated. I replaced this with a good pair from a wrecked 520. I will ultimately replace with new.

Two random wires were soldered to what turned out to be test points on the AF board. I removed them.

The speaker wire(from rear speaker jack to speaker) and speaker were missing. I replaced with parts from the junk 520.

While completing the removal of the filters I found three traces purposely cut on the IF board. I am still consulting the schematic to work out why this was done. I soldered a piece of solder wick across each break.

Some odd, numbered scales had been glued to the front panel behind the drive and load controls. Thankfully these removed easily.

The only remaining problem is that I need a coupler on the band switch shaft. I have one ordered, and once this is in, the radio should be almost complete and just needing alignment. On-air testing has gone well, and it even had a good set of tubes. Not a bad rig for about a C-note and an afternoon's work.

I do have some video shot during the repairs that I may post, but there are plenty of videos of average soldering skills and swapping caps on YouTube, as well as plenty of videos of folks tuning up a hybrid rig. I just figured that somebody might appriciate a laugh at what some people do to these rigs.

I took photos of the cut traces, and I may start a new topic later analyzing that mod. It doesn't appear to match up with any CB mod I could find, one symptom was that the send/recieve switch... Didn't...

Incidentally the filters that I removed were an Inrad #95 and #97... I believe that those belong in an 820? If anybody wants them, make me an offer.

Nathan
KK4REY

—
Sent from Mailbox

50084. Re: [TS-520_820_530_830] TS-520 Too much drive?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-13 06:26:47 UTC
From: Nathan Johnson
Topic: 49981 Message: 50084

This one is fixed... Reversed the mod, and imagine that, it works! I appriciate all the help!

Nathan
KK4REY

50085. Re: [TS-520_820_530_830] Test Equipment Shopping

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-13 06:38:27 UTC
From: Nathan Johnson
Topic: 50064 Message: 50085

Watching a bunch of stuff on eBay...

John(KB9PBM), what model is the one you are offering?

Nathan
KK4REY

50086. Re: 830S S meter not responding to signals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-13 14:23:58 UTC
From: wagstw46@...
Topic: 50070 Message: 50086

Bob:

I was not trying to criticize you or infer that I am an expert. I learn every day.

I was trying to understand your thought process. All my life I have tried to be a good teacher and a good supervisor. That doesnt mean being your buddy. It means having expectations for you. I was happy you found Q11/Q12.

When I saw that you asked about Q11/Q12 it told me you had looked at the schematic and had enough knowledge and experience to read a schematic. However, I then was puzzled if the meter responds to the AGC bus voltage going down as you turn RF gain pot down why you would think that Q11/Q12 would be source of the problem. Meter circuit cant distinguish between RF gain pot reducing the bus voltage or off air signal or the Marker signal reducing it via AGC detector action.

Take your DMM and measure the AGC bus voltage at Conn 15 Pin 3 (caution Pin 1 is driver tube anode voltage). Notice what happens to receiver background noise level in speaker and notice what happens to the S-meter. Depending on your DMM input Z the noise will drop noticeably and S-meter will deflect up scale. Some DMMs will run indication up to 10 over or more. When this happens you can be assured that Q11/Q12 are working.

Your DMM is having the same effect as Q10 AGC amp. It is placing a load on the AGC bus which by design is a high Z power supply and cannot support any load current.

You might try searching the reflector on AGC bus, AGC detector diodes, S-meter pegged etc to find previous discussions.

Terry K9TW

50087. Re: 830S S meter not responding to signals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-13 15:25:47 UTC
From: rrmvargo@...
Topic: 50070 Message: 50087

Terry,
No offense taken. I am self taught & I had a bad teacher (as the saying goes). I am relatively new to the 830S & new to the repair process itself compared to yourself & others. I also know that if I don't first try looking at the SM, I will be told to do so. ;-) I come here, after I get lazy and/or run out of competence. Thanx again for the help & I will get back in a few days. I've a Fluke 189, but I think one of my FET analogs has a 20Mohm input on some ranges. The AGC comment was a big help & something I missed & should have caught. - 73 Bob

50088. Re: 830S S meter not responding to signals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-13 17:19:11 UTC
From: rrmvargo@...
Topic: 50070 Message: 50088

Hi Terry,
You are not gonna like this....
So I went in & measured the voltages around Q10 as instructed & indicated on the schematic. Right away I saw that D18 had a "chip" in the glass & thought I had an AHAH! moment, but all voltages at EBC are good. I even measured at the collector & watched that voltage change as I rotated the RF gain. And both diodes checked good. The chip was a manufacturing error I have seen on other glass diodes. So what the heck?? I rechecked the connectors on the board & went back to check the S meter and rotated the AGC knob & Viola!! S meter now works. I call it: "The Laying of the Hands" (or stupid luck). But with your intercession, I did learn more about my radio, and I thank you for that. These inanimate objects just like the human touch sometimes. The cal set signal now gives a good reading, so I can do a quick & dirty alignment check.

Now onto ordering parts for the transmitter, which is a lessor part of the radio for me. It is all about the receiver, although I have been told I sound best on my other working 830. BTW, this 830S has 6146B National Electronics in it. I know they light, but am unsure how well they work. At least one split cap in the cage.

I'll probably be back for more help. Thanx again. - Bob W8RMV

ps-the Fluke 189 only had a small effect on the AGC voltage, which could be heard by the change in the noise floor. I am on other groups, but this group has a handful of true experts. And you are one of the experts here.

50089. Source for wire

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-13 17:32:07 UTC
From: Nathan Johnson
Topic: 50089 Message: 50089

With my current 520 and 530 running well, just waiting on parts order to completely renew the HV sections, I am back to my basket case 820. Much of the point-to-point wiring was damaged in a "high temperature event" on the rectifier board.

Does anyone have a source for an assortment of wire colors of similar size? I'm guessing the neighborhood of 18-22awg, maybe smaller. I would be looking for 6-8+ different colors, 10ft or so each.

Nathan
KK4REY

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Sent from Mailbox

50090. Re: [TS-520_820_530_830] TS-530 Repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-13 17:58:21 UTC
From: Joseph Stiles
Topic: 50083 Message: 50090

Nathan,
Looked at your videos...not the worst I've seen.The filter addition is very common when the owner wants to useFox Tango or INRAD brand filters. Usually they are stuck to anotherinstalled filter with double-sided tape.
  The red and white wires are interesting. I was hard to see but,are/were they connected to the "ground" post" and TP 6?
The cut traces you mentioned may be an after production circuit change.
 73 Joe
WB7UQU

On Thursday, November 13, 2014 5:37 AM, "'Nathan Johnson' jdownj@gmail.com [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

  So this is a different kind of post, I'm not asking for help. I picked up this TS-530S from Craigslist locally. I pulled the covers for a basic safety check before powering.
 I'm glad I did! I shot two short videos of the checkout.
Part 1:http://youtu.be/y7xWe434sxw
Part 2:http://youtu.be/lmQad4KA7Bw
I found the previous owner(s) had made several dubious modifications and repairs.
There were two additional filters installed on a piece of perfboard and pigtailed in place.
 I am aware that this is a method of installing filters that are not the correct form factor, but in this case the soldering was horrible. I removed them(of course I saved them).
One of the two HV caps had been replaced with a much older/much larger cap mounted upside down. HV wires were pinched and splices not insulated. I replaced this with a good pair from a wrecked 520. I will ultimately replace with new.
Two random wires were soldered to what turned out to be test points on the AF board. I removed them.
The speaker wire(from rear speaker jack to speaker) and speaker were missing. I replaced with parts from the junk 520.
While completing the removal of the filters I found three traces purposely cut on the IF board. I am still consulting the schematic to work out why this was done. I soldered a piece of solder wick across each break.
Some odd, numbered scales had been glued to the front panel behind the drive and load controls. Thankfully these removed easily.
The only remaining problem is that I need a coupler on the band switch shaft. I have one ordered, and once this is in, the radio should be almost complete and just needing alignment. On-air testing has gone well, and it even had a good set of tubes. Not a bad rig for about a C-note and an afternoon's work.
I do have some video shot during the repairs that I may post, but there are plenty of videos of average soldering skills and swapping caps on YouTube, as well as plenty of videos of folks tuning up a hybrid rig. I just figured that somebody might appriciate a laugh at what some people do to these rigs.
I took photos of the cut traces, and I may start a new topic later analyzing that mod. It doesn't appear to match up with any CB mod I could find, one symptom was that the

send/recieve switch... Didn't...
Incidentally the filters that I removed were an Inrad #95 and #97... I believe that those belong in an 820? If anybody wants them, make me an offer.
NathanKK4REY
—
Sent from Mailbox <!--

50091. Re: [TS-520_820_530_830] TS-530 Repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-13 18:15:13 UTC
From: Nathan Johnson
Topic: 50083 Message: 50091

Yes, that was TP6 and ground. Not sure what they were trying to do there. Don't have my manual in front of me, but that may have been a source of power for some other mod that I did not recieve with the radio.

I know that is a known method of installing filters, would have left them in place if the soldering job had looked better. I may lay out a small PCB to mount the filters in a better way.

The cut traces appeared to be done by a dremel or similar. I will post a picture or two when I get back to my computer this evening. When I first tested, I had no drive, and no RF output. Restoring the traces restored drive and output.

Nathan
KK4REY

—this msg edited as it contained already posted material. 73 Joe wb7uqu

50092. Re: [TS-520_820_530_830] Source for wire

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-13 18:57:17 UTC
From: Joseph Stiles
Topic: 50089 Message: 50092

Nathan,
  Any well stocked electronics, or even an automotive or marine supply store will have small spools of various gauges and colors, mostly around 25ft per spool. Radio Shack may have some. I have used in the past pieces of 8 conductor rotor cable to get short lengths of wire for use in repair, and not to forget, similar rigs that are no longer repairable to scavenge connectors and wires.
 73 Joe
WB7UQU

On Thursday, November 13, 2014 9:32 AM, "'Nathan Johnson' jdownj@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

  With my current 520 and 530 running well, just waiting on parts order to completely renew the HV sections, I am back to my basket case 820. Much of the point-to-point wiring was damaged in a "high temperature event" on the rectifier board.
Does anyone have a source for an assortment of wire colors of similar size? I'm guessing the neighborhood of 18-22awg, maybe smaller. I would be looking for 6-8+ different colors, 10ft or so each.
NathanKK4REY

_
Sent from Mailbox <!--

50093. Ts520 ?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-13 19:37:08 UTC
From: weslugo@...
Topic: 50093 Message: 50093

I will be receiving my new ts520 today or tomorrow, I am a new licensed amateur, I have searched through the manual and online, I am conflicted, should or should I not ground the radio with a 4ft copper rod if my dwelling is less than 10 years old, we do get lighting storms here, AUSTIN TEXAS, I unplug all electric devices in the house when these storms accrue, I am building an antenna and I know that needs grounding. If you would like to share any info with me I appreciate it very much. Again I am a new ham and questions may sound elementary, I wish to be educated by experienced and knowledgeable people. Air time is in the near future after tested equipment, antenna is made and most of all knowledge of the 520.
Thanks Mark KG5ERC

50094. 820s digtal display broken

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-13 18:53:13 UTC
From: juergen_marmann@...
Topic: 50094 Message: 50094

Hi,

I have a 820s with cracked digital display tube. I found one at ebay for 100€, is that an acceptable price? Are there other options like installing a 3rd party display?

Juergen

please remember to properly sign your msgs/posts.... name and call(if any). 73 Joe wb7uqu

50095. Re: [TS-520_820_530_830] Ts520 ?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-13 21:28:57 UTC
From: Mike W5RKL
Topic: 50093 Message: 50095

Mark,

You might take some time and read Tom Rauch, W8JI, website on grounding.
Click on the link below

http://w8ji.com/ground_systems.htm

Once Tom's page comes up, select either ground link you want. There are
a few such as Antenna Grounds, Lightning, and House ground layouts you
should read. I have my shack grounds the same as Tom's ground pages show.

My shack is about 80 feet from my house in a 10 x 20 shed (see my
website for a picture). I have a ground rod driven into the ground at
the shack entrance so the breaker panel ground is connected to the
ground rod. The shack ground rod is connected back to the house ground
through a solid copper wire run underground to the house ground rod.
That way the shack AND the house are both at the same ground potential.
I also have a ground rod and my Ameritron RCS4 switch mounted to the
ground rod. A #10 solid copper wire connects both shack ground rods
together.

73
Mike W5RKL
www.w5rkl.com

On 11/13/2014 1:37 PM, weslugo@... [TS-520_820_530_830] wrote:
>
> I will be receiving my new ts520 today or tomorrow, I am a new
> licensed amateur, I have searched through the manual and online, I am
> conflicted, should or should I not ground the radio with a 4ft copper
> rod if my dwelling is less than 10 years old, we do get lighting
> storms here, AUSTIN TEXAS, I unplug all electric devices in the house
> when these storms accrue, I am building an antenna and I know that
> needs grounding. If you would like to share any info with me I
> appreciate it very much. Again I am a new ham and questions may sound
> elementary, I wish to be educated by experienced and knowledgeable
> people. Air time is in the near future after tested equipment, antenna
> is made and most of all knowledge of the 520.
>
> Thanks Mark KG5ERC
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

50096. Re: [TS-520_820_530_830] Ts520 ?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-13 21:27:26 UTC
From: Joseph Stiles
Topic: 50093 Message: 50096

Mark,
Congrats on getting your ticket. The 520(S) is a solid built rig and you will like operating it.
As far as station grounding goes there are many thoughts...but to save space here go to the groups "Home Page," and just under the picture of
the Kenwood station on the left...click on "conversations" the in the oblong box above...enter "station grounding" and then "search groups"
 73 Joe
WB7UQU

On Thursday, November 13, 2014 1:18 PM, "weslugo@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

  I will be receiving my new ts520 today or tomorrow, I am a new licensed amateur, I have searched through the manual and online, I am conflicted, should or should I not ground the radio with a 4ft copper rod if my dwelling is less than 10 years old, we do get lighting storms here, AUSTIN TEXAS, I unplug all electric devices in the house when these storms accrue, I am building an antenna and I know that needs grounding. If you would like to share any info with me I appreciate it very much. Again I am a new ham and questions may sound elementary, I wish to be educated by experienced and knowledgeable people. Air time is in the near future after tested equipment, antenna is made and most of all knowledge of the 520. Thanks Mark KG5ERC <!--

50097. Re: [TS-520_820_530_830] 820s digtal display broken

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-13 21:30:50 UTC
From: Mike W5RKL
Topic: 50094 Message: 50097

Juergen,

I think you could pick up a display tube for your 820 cheaper than that.
Try Bob Mansker, KE5FTF, he may have one. Drop him an email at

ke5ftf at mail dot com

73
Mike W5RKL
www.w5rkl.com

On 11/13/2014 12:53 PM, juergen_marmann@... [TS-520_820_530_830] wrote:
>
> Hi,Â
>
>
> I have a 820s with cracked digital display tube. I found one at ebay
> for 100â□¬, is that an acceptable price? Are there other options like
> installing a 3rd party display?
>
>
> Juergen
>
>
>
> please remember to properly sign your msgs/posts.... name and call(if
> any). 73 Joe wb7uqu
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

50098. Re: 830S S meter not responding to signals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-13 21:47:50 UTC
From: wagstw46@...
Topic: 50070 Message: 50098

Why would I not like this?

I asked you if it was stuck in AGC off and had you tried Fast and Slow positions.

I would deoxit the AGC switch. Have to kind of spray at it or can remove the metal meter shield to gain better access and use artist brush to apply it.

Terry K9TW

50099. Re: [TS-520_820_530_830] Source for wire

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-13 21:43:24 UTC
From: Jim
Topic: 50089 Message: 50099

Another good source is a control cable from an old LMR radio-

I've used control cables from old GE Delta radios as a source for wire. Just strip off the outer jacket and you can find all kinds of good wire including different gauges, colors and even shielded cable-

Jim, KC1RM

Sent from Mailbox https://www.dropbox.com/mailbox

this msg edited as it contained already posted material. 73 Joe wb7uqu

50100. Re: [TS-520_820_530_830] 820s digtal display broken

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-13 21:46:25 UTC
From: Nathan Johnson
Topic: 50094 Message: 50100

I have one that I am unable to test, but is not physically broken. It's yours for postage. Contact me off-list if you are interested.

Nathan
KK4REY

—Antivirus http://www.avast.com/ protection is active.

this msg edited as it contained already posted material. 73 Joe wb7uqu

50101. Re: Source for wire

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-14 00:03:32 UTC
From: Dennis F Dittiacur
Topic: 50089 Message: 50101

Know any telephone guys? Four-pair crosscut wire (22ga.) would fill the bill. I might be able to find a length.

Once I latched a two foot section of a twentyfold-five pair cable, but alas, Long gone.

Contact me off group at dittiacur@....

Dennis
WB8RUW

Sent from Yankee Stadium, third base.

50102. Re: [TS-520_820_530_830] Test Equipment Shopping

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-14 02:35:15 UTC
From: W5RKL
Topic: 50064 Message: 50102

I have a video on my website that shows a variety of basic test equipment such as a VTVM, DVM/DMM, Frequency Counter, and Audio generator. Go to my website and click on Videos.

www.w5rkl.com

When the video page comes up, scroll down to the test equipment listing and click on the link. The listing also has a pdf file that lists various DVM/DMM and VTVMs I have with the make and model and specifications listed. Any DVM/DMM you are considering, should have at least a 10 meg input impedance. All the VTVMs and DVM/DMMs I use have 10 meg input impedance.

If you purchase an analog VTVM and it does not have probes, you can make them yourself. The DC RED probe must have a 1MEG internal resistor. I usually make 2 different probes, one for AC which is a straight through, no resistor, wired probe but the DC probe, I installed a 1MEG 1/2W resistor in series with the RED probe wire. If the VTVM has a screw on connector, I changed that to a BNC connector, makes connecting different probes much easier.

You should also have a BNC "T" connector. A BNC "T" connector has 2 female end and one Male end. These come in handy when using a signal generator and a frequency counter together. The frequency counter displays the signal generator's frequency plus allows you to connect the signal generator to the circuit under test at the same time.

You should have a few .01ufd high volt disc capacitors on hand to use as DC blocking capacitors between the signal generator and/or frequency counter and the circuit under test. Not all circuit will have high voltage, just take the time to check with your DVM/DMM or VTVM to determine if the connection point has DC voltage or not. A .01ufd disc cap will allow you to connect a sig gen or frequency counter to the plate of a mixer or other stage with B+ and still allow the sig gen signal or mixer output signal to pass through the capacitor. The capacitor blocks the flow of DC voltage but allows AC sine wave voltage to flow through the capacitor.

73
Mike W5RKL
www.w5rkl.com

On 11/13/2014 12:38 AM, 'Nathan Johnson' jdownj@...
[TS-520_820_530_830] wrote:
> Watching a bunch of stuff on eBay...
>
> John(KB9PBM), what model is the one you are offering?

>
> Nathan
> KK4REY
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

50103. Re: [TS-520_820_530_830] Digest Number 5017

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-14 03:01:54 UTC
From: Billy Bob
Topic: 50103 Message: 50103

Cat 5 network cables and telephone cable make good hook up wire also.Bill WD8OSJ

On Thursday, November 13, 2014 4:30 PM, "TS-520_820_530_830@yahoogroups.com" <TS-520_820_530_830@yahoogroups.com> wrote:

<!--#yiv2568452906 #yiv2568452906ygrp-mkp {border:1px solid #d8d8d8;font-family:Arial;margin:10px 0;padding:0 10px;}#yiv2568452906 #yiv2568452906ygrp-mkp hr {border:1px solid #d8d8d8;}#yiv2568452906 #yiv2568452906ygrp-mkp #yiv2568452906hd {color:#628c2a;font-size:85%;font-weight:700;line-height:122%;margin:10px 0;}#yiv2568452906 #yiv2568452906ygrp-mkp #yiv2568452906ads {margin-bottom:10px;}#yiv2568452906 #yiv2568452906ygrp-mkp .yiv2568452906ad {padding:0 0;}#yiv2568452906 #yiv2568452906ygrp-mkp .yiv2568452906ad p {margin:0;}#yiv2568452906 #yiv2568452906ygrp-mkp .yiv2568452906ad a {color:#0000ff;text-decoration:none;}#yiv2568452906 #yiv2568452906ygrp-sponsor #yiv2568452906ygrp-lc {font-family:Arial;}#yiv2568452906 #yiv2568452906ygrp-sponsor #yiv2568452906ygrp-lc #yiv2568452906hd {margin:10px 0px;font-weight:700;font-size:78%;line-height:122%;}#yiv2568452906 #yiv2568452906ygrp-sponsor #yiv2568452906ygrp-lc .yiv2568452906ad {margin-bottom:10px;padding:0 0;}--> KENWOOD TS-520_820_530_830 KENWOOD TS-520_820_530_830 Group
15 Messages
Digest #5017 1a Re: Test Equipment Shopping by "Mark Gilger" mvgilger 1b Re: Test Equipment Shopping by "Nathan Johnson" jdownj 2a TS-530 Repair by "Nathan Johnson" jdownj 2b Re: TS-530 Repair by "Joseph Stiles" wb7uqu 2c Re: TS-530 Repair by "Nathan Johnson" jdownj 3a Re: TS-520 Too much drive? by "Nathan Johnson" jdownj 4a Re: 830S S meter not responding to signals by wagstw46 4b Re: 830S S meter not responding to signals by w8rmv 4c Re: 830S S meter not responding to signals by w8rmv 5a Source for wire by "Nathan Johnson" jdownj 5b Re: Source for wire by "Joseph Stiles" wb7uqu 6a Ts520 ? by weslugo 6b Re: Ts520 ? by "Mike W5RKL" w5rkl 6c Re: Ts520 ? by "Joseph Stiles" wb7uqu 7 820s digtal display broken by j.marmann
Messages

1a

Re: Test Equipment Shopping

Thu Nov 13, 2014 5:16 am (PST) . Posted by:

"Mark Gilger" mvgilger
Thanks Wes, I should have gone into more detail with the Heathkit VTVM's.

Mark, WB0IQK

Reply to sender . Reply to group . Reply via Web Post . All Messages (13) . Top ^
1b

Re: Test Equipment Shopping

Thu Nov 13, 2014 5:38 am (PST) . Posted by:

"Nathan Johnson" jdownj
Watching a bunch of stuff on eBay...

John(KB9PBM) , what model is the one you are offering?

Nathan
KK4REY

Reply to sender . Reply to group . Reply via Web Post . All Messages (13) . Top ^
2a

TS-530 Repair

Thu Nov 13, 2014 5:37 am (PST) . Posted by:

"Nathan Johnson" jdownj
So this is a different kind of post, I'm not asking for help. I picked up this TS-530S from Craigslist locally. I pulled the covers for a basic safety check before powering. I'm glad I did! I shot two short videos of the checkout.

Part 1:
http://youtu.be/y7xWe434sxw

Part 2:
http://youtu.be/lmQad4KA7Bw

I found the previous owner(s) had made several dubious modifications and repairs.

There were two additional filters installed on a piece of perfboard and pigtailed in place. I am aware that this is a method of installing filters that are not the correct form factor, but in this case the soldering was horrible. I removed them(of course I saved them).

One of the two HV caps had been replaced with a much older/much larger cap mounted upside down. HV wires were pinched and splices not insulated. I replaced this with a good pair from a wrecked 520. I will ultimately replace with new.

Two random wires were soldered to what turned out to be test points on the AF board. I removed them.

The speaker wire(from rear speaker jack to speaker) and speaker were missing. I replaced with parts from the junk 520.

While completing the removal of the filters I found three traces purposely cut on the IF board. I am still consulting the schematic to work out why this was done. I soldered a piece of solder wick across each break.

Some odd, numbered scales had been glued to the front panel behind the drive and load controls. Thankfully these removed easily.

The only remaining problem is that I need a coupler on the band switch shaft. I have one ordered, and once this is in, the radio should be almost complete and just needing alignment. On-air testing has gone well, and it even had a good set of tubes. Not a bad

rig for about a C-note and an afternoon' s work.

I do have some video shot during the repairs that I may post, but there are plenty of videos of average soldering skills and swapping caps on YouTube, as well as plenty of videos of folks tuning up a hybrid rig. I just figured that somebody might appriciate a laugh at what some people do to these rigs.

I took photos of the cut traces, and I may start a new topic later analyzing that mod. It doesn't appear to match up with any CB mod I could find, one symptom was that the send/recieve switch... Didn't.. .

Incidentally the filters that I removed were an Inrad #95 and #97... I believe that those belong in an 820? If anybody wants them, make me an offer.

Nathan
KK4REY

_
Sent from Mailbox Reply to sender . Reply to group . Reply via Web Post . All Messages (3) . Top ^
2b

Re: TS-530 Repair

Thu Nov 13, 2014 9:58 am (PST) . Posted by:

"Joseph Stiles" wb7uqu
Nathan,
Looked at your videos...not the worst I've seen.The filter addition is very common when the owner wants to useFox Tango or INRAD brand filters. Usually they are stuck to anotherinstalled filter with double-sided tape.
  The red and white wires are interesting. I was hard to see but,are/were they connected to the "ground" post" and TP 6?
The cut traces you mentioned may be an after production circuit change.
 73 Joe
WB7UQU

On Thursday, November 13, 2014 5:37 AM, "'Nathan Johnson' jdownj@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

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NathanKK4REY
—
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Reply to sender . Reply to group . Reply via Web Post . All Messages (3) . Top ^
2c

Re: TS-530 Repair

Thu Nov 13, 2014 10:46 am (PST) . Posted by:

"Nathan Johnson" jdownj
Yes, that was TP6 and ground. Not sure what they were trying to do there. Don't have my manual in front of me, but that may have been a source of power for some other mod that I did not recieve with the radio.

I know that is a known method of installing filters, would have left them in place if the soldering job had looked better. I may lay out a small PCB to mount the filters in a better way.

The cut traces appeared to be done by a dremel or similar. I will post a picture or two when I get back to my computer this evening. When I first tested, I had no drive, and no RF output. Restoring the traces restored drive and output.

Nathan
KK4REY

—this msg edited as it contained already posted material. 73 Joe wb7uqu

Reply to sender . Reply to group . Reply via Web Post . All Messages (3) . Top ^
3a

Re: TS-520 Too much drive?

Thu Nov 13, 2014 5:37 am (PST) . Posted by:

"Nathan Johnson" jdownj
This one is fixed... Reversed the mod, and imagine that, it works! I appriciate all the help!

Nathan
KK4REY

Reply to sender . Reply to group . Reply via Web Post . All Messages (21) . Top ^
4a

Re: 830S S meter not responding to signals

Thu Nov 13, 2014 6:23 am (PST) . Posted by:

wagstw46
Bob:

I was not trying to criticize you or infer that I am an expert. I learn every day.

I was trying to understand your thought process. All my life I have tried to be a good teacher and a good supervisor. That doesnt mean being your buddy. It means having expectations for you. I was happy you found Q11/Q12.

When I saw that you asked about Q11/Q12 it told me you had looked at the schematic and had enough knowledge and experience to read a schematic. However, I then was puzzled if the meter responds to the AGC bus voltage going down as you turn RF gain pot down why you would think that Q11/Q12 would be source of the problem. Meter circuit cant distinguish between RF gain pot reducing the bus voltage or off air signal or the Marker signal reducing it via AGC detector action.

Take your DMM and measure the AGC bus voltage at Conn 15 Pin 3 (caution Pin 1 is driver tube anode voltage). Notice what happens to receiver background noise level in speaker and notice what happens to the S-meter. Depending on your DMM input Z the noise will drop noticeably and S-meter will deflect up scale. Some DMMs will run indication up to 10 over or more. When this happens you can be assured that Q11/Q12 are working.

Your DMM is having the same effect as Q10 AGC amp. It is placing a load on the AGC bus which by design is a high Z power supply and cannot support any load current.

You might try searching the reflector on AGC bus, AGC detector diodes, S-meter pegged etc to find previous discussions.

Terry K9TW

Reply to sender . Reply to group . Reply via Web Post . All Messages (6) . Top ^
4b

Re: 830S S meter not responding to signals

Thu Nov 13, 2014 7:25 am (PST) . Posted by:

w8rmv
Terry,
No offense taken. I am self taught & I had a bad teacher (as the saying goes). I am relatively new to the 830S & new to the repair process itself compared to yourself & others. I also know that if I don't first try looking at the SM, I will be told to do so. ;-) I come here, after I get lazy and/or run out of competence. Thanx again for the help & I will get back in a few days. I've a Fluke 189, but I think one of my FET analogs has a 20Mohm input on some ranges. The AGC comment was a big help & something I missed & should have caught. - 73 Bob Reply to sender . Reply to group . Reply via Web Post . All Messages (6) . Top ^
4c

Re: 830S S meter not responding to signals

Thu Nov 13, 2014 9:19 am (PST) . Posted by:

w8rmv
Hi Terry,
You are not gonna like this....
So I went in & measured the voltages around Q10 as instructed & indicated on the schematic. Right away I saw that D18 had a "chip" in the glass & thought I had an AHAH! moment, but all voltages at EBC are good. I even measured at the collector & watched that voltage change as I rotated the RF gain. And both diodes checked good. The chip was a manufacturing error I have seen on other glass diodes. So what the heck?? I rechecked the connectors on the board & went back to check the S meter and rotated the AGC knob & Viola!! S meter now works. I call it: "The Laying of the Hands" (or stupid luck). But with your intercession, I did learn more about my radio, and I thank you for that. These inanimate objects just like the human touch sometimes. The cal set signal now gives a good reading, so I can do a quick & dirty alignment check.

Now onto ordering parts for the transmitter, which is a lessor part of the radio for me. It is all about the receiver, although I have been told I sound best on my other working 830. BTW, this 830S has 6146B National Electronics in it. I know they light, but am unsure how well they work. At least one split cap in the cage.

I'll probably be back for more help. Thanx again. - Bob W8RMV

ps-the Fluke 189 only had a small effect on the AGC voltage, which could be heard by the change in the noise floor. I am on other groups, but this group has a handful of true

experts. And you are one of the experts here.

Reply to sender . Reply to group . Reply via Web Post . All Messages (6) . Top ^
5a

Source for wire

Thu Nov 13, 2014 9:46 am (PST) . Posted by:

"Nathan Johnson" jdownj
With my current 520 and 530 running well, just waiting on parts order to completely renew the HV sections, I am back to my basket case 820. Much of the point-to-point wiring was damaged in a "high temperature event" on the rectifier board.

Does anyone have a source for an assortment of wire colors of similar size? I'm guessing the neighborhood of 18-22awg, maybe smaller. I would be looking for 6-8+ different colors, 10ft or so each.

Nathan
KK4REY

—
Sent from Mailbox Reply to sender . Reply to group . Reply via Web Post . All Messages (2) . Top ^
5b

Re: Source for wire

Thu Nov 13, 2014 10:57 am (PST) . Posted by:

"Joseph Stiles" wb7uqu
Nathan,
  Any well stocked electronics, or even an automotive or marine supply store will have small spools of various gauges and colors, mostly around 25ft per spool. Radio Shack may have some. I have used in the past pieces of 8 conductor rotor cable to get short lengths of wire for use in repair, and not to forget, similar rigs that are no longer repairable to scavenge connectors and wires.
 73 Joe
WB7UQU

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!important;} -->

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6a

Ts520 ?

Thu Nov 13, 2014 1:18 pm (PST) . Posted by:

weslugo
I will be receiving my new ts520 today or tomorrow, I am a new licensed amateur, I have searched through the manual and online, I am conflicted, should or should I not ground the radio with a 4ft copper rod if my dwelling is less than 10 years old, we do get lighting storms here, AUSTIN TEXAS, I unplug all electric devices in the house when these storms accrue, I am building an antenna and I know that needs grounding. If you would like to share any info with me I appreciate it very much. Again I am a new ham and questions may sound elementary, I wish to be educated by experienced and knowledgeable people. Air time is in the near future after tested equipment, antenna is made and most of all knowledge of the 520.
Thanks Mark KG5ERC
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6b

Re: Ts520 ?

Thu Nov 13, 2014 1:29 pm (PST) . Posted by:

"Mike W5RKL" w5rkl
Mark,

You might take some time and read Tom Rauch, W8JI, website on grounding.
Click on the link below

http://w8ji.com/ground_systems.htm

Once Tom's page comes up, select either ground link you want. There are
a few such as Antenna Grounds, Lightning, and House ground layouts you
should read. I have my shack grounds the same as Tom's ground pages show.

My shack is about 80 feet from my house in a 10 x 20 shed (see my
website for a picture). I have a ground rod driven into the ground at

the shack entrance so the breaker panel ground is connected to the
ground rod. The shack ground rod is connected back to the house ground
through a solid copper wire run underground to the house ground rod.
That way the shack AND the house are both at the same ground potential.
I also have a ground rod and my Ameritron RCS4 switch mounted to the
ground rod. A #10 solid copper wire connects both shack ground rods
together.

73
Mike W5RKL
www.w5rkl.com

On 11/13/2014 1:37 PM, weslugo@yahoo.com [TS-520_820_530_830] wrote:
>
> I will be receiving my new ts520 today or tomorrow, I am a new
> licensed amateur, I have searched through the manual and online, I am
> conflicted, should or should I not ground the radio with a 4ft copper
> rod if my dwelling is less than 10 years old, we do get lighting
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> people. Air time is in the near future after tested equipment, antenna
> is made and most of all knowledge of the 520.
>
> Thanks Mark KG5ERC
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com
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6c

Re: Ts520 ?

Thu Nov 13, 2014 1:30 pm (PST) . Posted by:

"Joseph Stiles" wb7uqu
Mark,
Congrats on getting your ticket. The 520(S) is a solid built rig and you will like
operating it.
As far as station grounding goes there are many thoughts...but to save space here go to the
groups "Home Page," and just under the picture of
the Kenwood station on the left...click on "conversations" the in the oblong box
above...enter "station grounding" and then "search groups"
 73 Joe
WB7UQU

On Thursday, November 13, 2014 1:18 PM, "weslugo@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

I will be receiving my new ts520 today or tomorrow, I am a new licensed amateur, I have searched through the manual and online, I am conflicted, should or should I not ground the radio with a 4ft copper rod if my dwelling is less than 10 years old, we do get lighting storms here, AUSTIN TEXAS, I unplug all electric devices in the house when these storms accrue, I am building an antenna and I know that needs grounding. If you would like to share any info with me I appreciate it very much. Again I am a new ham and questions may sound elementary, I wish to be educated by experienced and knowledgeable people. Air time is in the near future after tested equipment, antenna is made and most of all knowledge of the 520. Thanks Mark KG5ERC <!--#yiv25416130 31 #yiv2541613031ygrp- mkp {border:1px solid #d8d8d8;font- family:Arial; margin:10px 0;padding:0 10px;}#yiv254161303 1 #yiv2541613031ygrp- mkp hr {border:1px solid #d8d8d8;}#yiv254161 3031 #yiv2541613031ygrp- mkp #yiv2541613031hd {color:#628c2a; font-size: 85%;font- weight:700; line-height: 122%;margin: 10px 0;}#yiv2541613031 #yiv2541613031ygrp- mkp #yiv2541613031ads {margin-bottom: 10px;}#yiv254161 3031 #yiv2541613031ygrp- mkp .yiv2541613031ad {padding:0 0;}#yiv2541613031 #yiv2541613031ygrp- mkp .yiv2541613031ad p {margin:0;}# yiv2541613031 #yiv2541613031ygrp- mkp .yiv2541613031ad a {color:#0000ff; text-decoration: none;}#yiv254161 3031 #yiv2541613031ygrp- sponsor #yiv2541613031ygrp- lc {font-family: Arial;}#yiv25416 13031 #yiv2541613031ygrp- sponsor #yiv2541613031ygrp- lc #yiv2541613031hd {margin:10px 0px;font-weight: 700;font- size:78%; line-height: 122%;}#yiv254161 3031 #yiv2541613031ygrp- sponsor #yiv2541613031ygrp- lc .yiv2541613031ad {margin-bottom: 10px;padding: 0 0;}#yiv2541613031 #yiv2541613031actio ns {font-family: Verdana;font- size:11px; padding:10px 0;}#yiv2541613031 #yiv2541613031activ ity {background- color:#e0ecee; float:left; font-family: Verdana;font- size:10px; padding:10px; }#yiv2541613031 #yiv2541613031activ ity span {font-weight: 700;}#yiv2541613 031 #yiv2541613031activ ity span:first-child {text-transform: uppercase; }#yiv2541613031 #yiv2541613031activ ity span a {color:#5085b6; text-decoration: none;}#yiv254161 3031 #yiv2541613031activ ity span span {color:#ff7900; }#yiv2541613031 #yiv2541613031activ ity span .yiv2541613031under line {text-decoration: underline; }#yiv2541613031 .yiv2541613031attac h {clear:both; display:table; font-family: Arial;font- size:12px; padding:10px 0;width:400px; }#yiv2541613031 .yiv2541613031attac h div a {text-decoration: none;}#yiv254161 3031 .yiv2541613031attac h img {border:none; padding-right: 5px;}#yiv2541613 031 .yiv2541613031attac h label {display:block; margin-bottom: 5px;}#yiv2541613 031 .yiv2541613031attac h label a {text-decoration: none;}#yiv254161 3031 blockquote {margin:0 0 0 4px;}#yiv2541613031 .yiv2541613031bold {font-family: Arial;font- size:13px; font-weight: 700;}#yiv2541613 031 .yiv2541613031bold a {text-decoration: none;}#yiv254161 3031 dd.yiv2541613031las t p a {font-family: Verdana;font- weight:700; }#yiv2541613031 dd.yiv2541613031las t p span {margin-right: 10px;font- family:Verdana; font-weight: 700;}#yiv2541613 031 dd.yiv2541613031las t p span.yiv2541613031y shortcuts {margin-right: 0;}#yiv254161303 1 div.yiv2541613031at tach-table div div a {text-decoration: none;}#yiv254161 3031 div.yiv2541613031at tach-table {width:400px; }#yiv2541613031 div.yiv2541613031fi le-title a, #yiv2541613031 div.yiv2541613031fi le-title a:active, #yiv2541613031 div.yiv2541613031fi le-title a:hover, #yiv2541613031 div.yiv2541613031fi le-title a:visited {text-decoration: none;}#yiv254161 3031 div.yiv2541613031ph oto-title a, #yiv2541613031 div.yiv2541613031ph oto-title a:active, #yiv2541613031 div.yiv2541613031ph oto-title a:hover, #yiv2541613031 div.yiv2541613031ph oto-title a:visited {text-decoration: none;}#yiv254161 3031 div#yiv2541613031yg rp-mlmsg #yiv2541613031ygrp- msg p a span.yiv2541613031y shortcuts {font-family: Verdana;font- size:10px; font-weight: normal;}# yiv2541613031 .yiv2541613031green {color:#628c2a;

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7

820s digtal display broken

Thu Nov 13, 2014 1:19 pm (PST) . Posted by:

j.marmann
Hi,

I have a 820s with cracked digital display tube. I found one at ebay for 100€, is that an acceptable price? Are there other options like installing a 3rd party display?

Juergen

please remember to properly sign your msgs/posts.. .. name and call(if any). 73 Joe wb7uqu

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50104. Re: Source for wire

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-14 03:03:38 UTC
From: paw_paw44036@...
Topic: 50089 Message: 50104

Cat 5 network cables and telephone cable make good hook up wire also.
Bill WD8OSJ

50105. Re: 830S S meter not responding to signals

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-14 03:36:43 UTC
From: rrmvargo@...
Topic: 50070 Message: 50105

Thanx again, Terry.
-Bob

50106. Re: [TS-520_820_530_830] Re: Station Grounding

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-14 09:34:45 UTC
From: weslugo@...
Topic: 49595 Message: 50106

Well said, it's a hobby not a chore, do it for fun, if it's a chore its work not fun. Mark KG5ERC

50107. Re: [TS-520_820_530_830] Re: TS-820S Digital Hold stupid!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-14 12:55:30 UTC
From: Tom k2bew
Topic: 50038 Message: 50107

Thanks Mike,W5RKL,

I just saw this reply this morning Nov 14. and I am taking a look at the videos now. Thanks for the homework!

Thanks to Neil VK6NSB also for the info on the DD-103, I saw your pictures, looks good.

I asked the xyl for one one Christmas. well see if I get it, Hi Hi

I figure if I do, and eventually get an external VFO I can switch back and forth if I need to operate split.
73,

Tom, K2BEW

50108. Re: 820s digtal display broken

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-14 15:18:44 UTC
From: juergen_marmann@...
Topic: 50094 Message: 50108

Nathan could not find your address.

juergen (at) jagm.eu

73
Juergen
no callsign yet :)

50109. intermittent display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-14 16:18:07 UTC
From: taylorfrank13@...
Topic: 50109 Message: 50109

Hello , new member here with a 830s display problem.
Display works great but on occasion does not change
with rotation of the vfo knob. It stays at 3000, 65000,
ect depending on the band selected. I can move the rig or beat on it
(caveman style) and it reverts to normai.
I have grounded boards, done the star washer thing , removed all
board connectors but still have the problem. It appears that the display
does not receive a signal form the vfo intermittently. Which connector
carries the vfo signal to the display? which board do i need to check for
solder joint integrity/
Thanks, Frank aa4ex

50110. Re: intermittent display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-14 20:21:18 UTC
From: wagstw46@...
Topic: 50109 Message: 50110

Instead of beating on it you might try exercising the FIX switch multiple times!

Wonder why KW engineers didnt think of star lock washers?

Terry K9TW

50111. Re: intermittent display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-14 20:50:43 UTC
From: wagstw46@...
Topic: 50109 Message: 50111

I forgot to mention if the display is reading 500khz low on all bands then most likely you have lost the "CON" signal from the PLL board to the Digital Display board.

Can try wiggling Conn 3 of the PLL board or gently pulling/pressing on the lead wires entering the plug body. Best if you have an O-scope to measure the CON signal.

Also from time to time I find bad solder connection on Jumper J1 (small grey coax) on the PLL board that brings the VFO signal to Mixer Q29.

For example normal CON readings on 40 meters for ends and middle of VFO travel is as follows:

7.500 = 1.000mhz
7.250 = 0.750mhz
7.000= 0.500 mhz

The level will be approx 375mv P-P or 125 mv rms.

Waveform is a sine wave with nice rounded top half and sharper bottom half of the cycle.

CON is the same as Cin on the TS-820S.

Terry K9TW

50112. Ts520 Received

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-14 18:16:00 UTC
From: weslugo@...
Topic: 50093 Message: 50112

Update, got home after work last night to find my TS520 at the fron door , I opened the heavy and rather large box to find it was packaged fairly well bubble wrap and Styrofoam in a heavy cardboard box, I then opened it pulled it from its nest, I placed it on my computer desk and began to inspect it, I noticed the white indicator lines on the all the knobs were brown, I can clean them, no biggie, the meter glass/plastic was clean and no cracks, I than looked to see that the top and btm screws had been removed before, ok that's fine too, I pulled the covers and to my surprise I noticed both the SSB and CW crystals were both there, (the person that sold it to me did not know if both were there), to me it does not look like any work has every been done to it, I dusted it off with a soft brush, I noticed the wire for the external speaker jack in the back need to be soldered and on the noise blanker board the negative wire was off, don't know why, looks deliberate, have not powered it up yet, and I need an antenna,(I am a newly licensed amateur ham operator) I am going to start building my antenna this weekend. I will take pics of the 520 and post later on. Talk to you later. Mark KG5ERC

50113. Re: intermittent display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-14 20:24:27 UTC
From: taylorfrank13@...
Topic: 50109 Message: 50113

Thanks Terry, tried that .Worked with all the board connectors.

50114. RE: [TS-520_820_530_830] Ts520 Received

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-14 21:33:07 UTC
From: Gary Desler
Topic: 50093 Message: 50114

You will have two unknowns, best to transmit into a dummy load first.

Thanks,

Gary

AA7YO

"Bad men need nothing more to compass their ends, than that good men should look on and do nothing."

John Stuart Mill, 2/1/1867

From: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com]
Sent: Friday, November 14, 2014 10:16 AM
To: TS-520_820_530_830@yahoogroups.com
Subject: [TS-520_820_530_830] Ts520 Received

Update, got home after work last night to find my TS520 at the fron door , I opened the heavy and rather large box to find it was packaged fairly well bubble wrap and Styrofoam in a heavy cardboard box, I then opened it pulled it from its nest, I placed it on my computer desk and began to inspect it, I noticed the white indicator lines on the all the knobs were brown, I can clean them, no biggie, the meter glass/plastic was clean and no cracks, I than looked to see that the top and btm screws had been removed before, ok that's fine too, I pulled the covers and to my surprise I noticed both the SSB and CW crystals were both there, (the person that sold it to me did not know if both were there), to me it does not look like any work has every been done to it, I dusted it off with a soft brush, I noticed the wire for the external speaker jack in the back need to be soldered and on the noise blanker board the negative wire was off, don't know why, looks deliberate, have not powered it up yet, and I need an antenna,(I am a newly licensed amateur ham operator) I am going to start building my antenna this weekend. I will take pics of the 520 and post later on. Talk to you later.

Mark KG5ERC

50115. Re: [TS-520_820_530_830] Ts520 Received

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-14 22:09:27 UTC
From: K5MYJ
Topic: 50093 Message: 50115

For receiving you can just run a long wire out of a window.

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"
----- Original Message -----
From: weslugo@... [TS-520_820_530_830]
To: TS-520_820_530_830@yahoogroups.com
Sent: Friday, November 14, 2014 10:16 AM
Subject: [TS-520_820_530_830] Ts520 Received

Update, got home after work last night to find my TS520 at the fron door , I opened the heavy and rather large box to find it was packaged fairly well bubble wrap and Styrofoam in a heavy cardboard box, I then opened it pulled it from its nest, I placed it on my computer desk and began to inspect it, I noticed the white indicator lines on the all the knobs were brown, I can clean them, no biggie, the meter glass/plastic was clean and no cracks, I than looked to see that the top and btm screws had been removed before, ok that's fine too, I pulled the covers and to my surprise I noticed both the SSB and CW crystals were both there, (the person that sold it to me did not know if both were there), to me it does not look like any work has every been done to it, I dusted it off with a soft brush, I noticed the wire for the external speaker jack in the back need to be soldered and on the noise blanker board the negative wire was off, don't know why, looks deliberate, have not powered it up yet, and I need an antenna,(I am a newly licensed amateur ham operator) I am going to start building my antenna this weekend. I will take pics of the 520 and post later on. Talk to you later.

Mark KG5ERC

50116. Re: intermittent display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-14 21:18:13 UTC
From: taylorfrank13@...
Topic: 50109 Message: 50116

Thanks Terry, Will try your suggestions tonight.At least that is a starting place.
Frank

remember to sign your posts according to group policy. Name & call(if any) 73 Joe wb7uqu

50117. Re: intermittent display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-14 23:09:15 UTC
From: taylorfrank13@...
Topic: 50109 Message: 50117

Terry, You nailed it, TP1 has almost no solder and came loose when I tugged on it.
That was my intermittent. Display and VFO are communicating. We are so
fortunate to have such skilled people as you on this board.
Another problem if you may. The output on the lower bands is 60 watts ,
on upper bands 100. Plate current is 250mils. I sprayed the bandswitch
and exercized it to no effect. Also the radio had no cover on the RF cage.
Should i get a cover? Guess rig has been altered. Anything easy I can check?
The finals look original and driver gives S9 signal 10mtr calibration.
Thanks
Frank

50118. Scrapping TS-520 - Fell off a shippers converyor belt or run over by something big!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-15 01:11:50 UTC
From: k7mks@...
Topic: 50118 Message: 50118

What do you need. No tubes. Cabinet and fan did not survive!

joe k7mks

50119. Re: [TS-520_820_530_830] Re: Station Grounding

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-15 01:33:51 UTC
From: John Davidson
Topic: 49595 Message: 50119

My new hobby started today, it's repairing a 5 year old washing machine that should have lasted another 20 years like the one it replaced. Today I learned the part it needs cons about half what I paid tor the whole @#$$% thing ! And it sure ain't cheep to ship to me! Ham radio is more fun as a Hobby.

My radio is Ham Radio...CW is Real Radio
73, John...K8JD

From: "weslugo@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com>
To: TS-520_820_530_830@yahoogroups.com
Sent: Friday, November 14, 2014 4:34 AM
Subject: Re: [TS-520_820_530_830] Re: Station Grounding

Well said, it's a hobby not a chore, do it for fun, if it's a chore its work not fun.
Mark KG5ERC

50120. Re: [TS-520_820_530_830] Scrapping TS-520 - Fell off a shippers converyor belt or run over by something big!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-15 01:41:04 UTC
From: Jim Lamanteer
Topic: 50118 Message: 50120

JOE WOULD U LIKE TO SELL WHAT U HAVE LEFT? LET ME KNOW SEND ME A CONTACT PHONE NUMBER EASIER TO DO A LAND LINE. THANKS JIMMY WB2KNR
From: "k7mks@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com>
To: "530, TS-520" <TS-520_820_530_830@yahoogroups.com>
Sent: Friday, November 14, 2014 8:11 PM
Subject: [TS-520_820_530_830] Scrapping TS-520 - Fell off a shippers converyor belt or run over by something big!

What do you need. No tubes. Cabinet and fan did not survive!

joe k7mks

50121. Re: [TS-520_820_530_830] Scrapping TS-520 - Fell off a shippers converyor belt or run over by something big!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-15 01:43:45 UTC
From: k7mks@...
Topic: 50118 Message: 50121

425.747.5349

joe

----- Original Message -----

From: "530, TS-520" <TS-520_820_530_830@yahoogroups.com>
To: "530, TS-520" <TS-520_820_530_830@yahoogroups.com>
Sent: Friday, November 14, 2014 5:41:04 PM
Subject: Re: [TS-520_820_530_830] Scrapping TS-520 - Fell off a shippers converyor belt or run over by something big!

JOE WOULD U LIKE TO SELL WHAT U HAVE LEFT? LET ME KNOW SEND ME A CONTACT PHONE NUMBER EASIER TO DO A LAND LINE. THANKS JIMMY WB2KNR

From: "k7mks@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com>
To: "530, TS-520" <TS-520_820_530_830@yahoogroups.com>
Sent: Friday, November 14, 2014 8:11 PM
Subject: [TS-520_820_530_830] Scrapping TS-520 - Fell off a shippers converyor belt or run over by something big!

What do you need. No tubes. Cabinet and fan did not survive!

joe k7mks

50122. Re: intermittent display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-15 01:20:51 UTC
From: taylorfrank13@...
Topic: 50109 Message: 50122

FYI, If your 830 has intermittent VFO display connection that causes the display to stay on a frequency 500kc lower than the band your are tuned to and does not change with changing vfo frequency, as per Terry's advice check the PLL board for solder connection at TP1 and J1. Mine was loose . Also check connector 3 on PLL board.
Frank aa4ex

50123. Kenwood TS-530S Normal Operation video

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-15 20:56:33 UTC
From: louis.wilen@...
Topic: 50123 Message: 50123

Mainly for the benefit of hams who have acquired a TS-530S or similar Kenwood hybrid rig, I have posted a 17 minute video to YouTube that shows normal operation of the rig's controls, meter, and indicator lights.

The video is at:
Kenwood TS-530S normal operation https://www.youtube.com/watch?v=3tfTT69BMw4

https://www.youtube.com/watch?v=3tfTT69BMw4

Kenwood TS-530S normal operation https://www.youtube.com/watch?v=3tfTT69BMw4 This feature is not available right now. Please try again later.

View on www.youtube.com https://www.youtube.com/watch?v=3tfTT69BMw4
Preview by Yahoo

Hopefully this reduce confusion as to what is normal vs. when there is an actual problem with this rig.

Perhaps folks with the other Kenwood hybrid rigs could make similar videos.

Louis
W3VVV

50124. Re: [TS-520_820_530_830] Kenwood TS-530S Normal Operation video

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-15 22:16:08 UTC
From: Mark Gilger
Topic: 50123 Message: 50124

Your 530 looks to be in excellent condition.
Sounded good on the net today also.

Mark, WB0IQK

At 03:56 PM 11/15/2014, you wrote:
>
>
>Mainly for the benefit of hams who have acquired
>a TS-530S or similar Kenwood hybrid rig, I have
>posted a 17 minute video to YouTube that shows
>normal operation of the rig's controls, meter, and indicator lights.
>
>The video is at:
><https://www.youtube.com/watch?v=3tfTT69BMw4>Kenwood TS-530S normal operation
><https://www.youtube.com/watch?v=3tfTT69BMw4>
>image
><https://www.youtube.com/watch?v=3tfTT69BMw4>
><https://www.youtube.com/watch?v=3tfTT69BMw4>Kenwood TS-530S normal operation
>This feature is not available right now. Please try again later.
>

50125. Re: Kenwood TS-530S Normal Operation video

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-15 22:01:07 UTC
From: wq8q@...
Topic: 50123 Message: 50125

Nice video, Louis. I heard you mention it this afternoon on the Kenwood Hybrid Net and checked it out. It fills a missing niche, I think. We've got users on here who like to tinker and rebuild, and then we've got newer hams seeking to use a Kenwood Hybrid for their first HF rig.
Your video does a good job of showing them what the rig is supposed to do - simulating an Elmer!
73 de Rick, WQ8Q

50126. Re: [TS-520_820_530_830] Re: Kenwood TS-530S Normal Operation video

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-16 03:39:58 UTC
From: Geoff Hegarty
Topic: 50123 Message: 50126

Nice Louis
Many thanks
I've had a 530S sitting in the shed for years waiting for me to get motivated to fire her up again. Your video will help I hope.
Best regards
GeoffVK2HQA

On Sunday, 16 November 2014, 13:02, "wq8q@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Nice video, Louis. I heard you mention it this afternoon on the Kenwood Hybrid Net and checked it out.It fills a missing niche, I think. We've got users on here who like to tinker and rebuild, and then we've got newer hams seeking to use a Kenwood Hybrid for their first HF rig.Your video does a good job of showing them what the rig is supposed to do - simulating an Elmer!73 de Rick, WQ8Q

50127. TS-520D

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-16 05:03:00 UTC
From: k7mks@...
Topic: 50127 Message: 50127

What is the difference between a Trio TS-520D and a Kenwood TS-520?

Thanks joe k7mks

50128. Re: [TS-520_820_530_830] TS-520D

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-16 05:06:53 UTC
From: Joseph Stiles
Topic: 50127 Message: 50128

Joe,
If I remember correctly, the "D" model was for use in Japan and was not for export. Also, I think that the power was limited to 50w
73 Joe
WB7UQU

On Saturday, November 15, 2014 9:03 PM, "k7mks@comcast.net [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

What is the difference between a Trio TS-520D and a Kenwood TS-520?

Thanks joe k7mks

50129. Re: [TS-520_820_530_830] TS-520D

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-16 15:31:40 UTC
From: w5rkl@...
Topic: 50127 Message: 50129

The following is a cut and paste response from Osamu Hazawa, a member of this group since 12 Oct 2005, from a discussion about the TS-520D, dated 17 Sept 2009. He states he owns a TS-520D and it has 2 final tubes and produces 100 watts output.

"Hello All,

I don't know the TS-520D was introduced to the market other than in Japan,
TS-520D is 100W version of TS-520X (10W, vice versa).
I own an TS-520D and it has 2 final tubes installed.

Osamu"

73
Mike W5RKL
W5RKL http://www.w5rkl.com

W5RKL http://www.w5rkl.com Welcome to my Amateur Radio website. 73 Mike W5RKL email: w5rkl@yahoo.com

View on www.w5rkl.com http://www.w5rkl.com
Preview by Yahoo

50130. Re: Kenwood TS-530S Normal Operation video

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-16 15:38:23 UTC
From: krashoc@...
Topic: 50123 Message: 50130

Hello Louis,

I enjoyed the video for the Kenwood TS-530S, I purchased a TS530s as my first radio. I have had for about 6 months and this video helped to sort out some things I did not quite understand. I have been using it on 40M and 20M mostly, today I tries it on 15 meters.
I have a question if you do not mind. On the other bands my SWR is around 1.5:1 when I transmit, but in 15M it jumps way up to over 4:1. I have a G5RV at 35 feet going into an MFJ-949E tuner and I follow the tune procedure from the manual and the SWR in tune up is 1.1:1 do you have any ideas what might cause this?

Thank You
Greg K8ult

50131. Re: [TS-520_820_530_830] Re: Kenwood TS-530S Normal Operation video

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-16 19:43:58 UTC
From: John Davidson
Topic: 50123 Message: 50131

What kind of Wattmeter/SWR meter are U using ? If it is the kind with a calibrate SWR switch and Sensitivity knob you have to set , are you recalibrating it on 15M when you changed bands ? Those old meters are more sensitive to SWR readings on the higher bands.You have to reset them for each band change.I have the MFJ948 And the SWR readings are pretty reliable,I don't know what metering the 949 has.Worse case is you have a connection somewhere between the radio and antenna that is arcing over on 15M when you increase power from tune level to normal operation. I had this happen when I had a wet connection on one of my antennas. My radio is Ham Radio...CW is Real Radio
73, John...K8JD
From: "krashoc@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com>
To: TS-520_820_530_830@yahoogroups.com
Sent: Sunday, November 16, 2014 10:38 AM
Subject: [TS-520_820_530_830] Re: Kenwood TS-530S Normal Operation video

  Hello Louis,
I enjoyed the video for the Kenwood TS-530S, I purchased a TS530s as my first radio. I have had for about 6 months and this video helped to sort out some things I did not quite understand. I have been using it on 40M and 20M mostly, today I tries it on 15 meters. I have a question if you do not mind. On the other bands my SWR is around 1.5:1 when I transmit, but in 15M it jumps way up to over 4:1. I have a G5RV at 35 feet going into an MFJ-949E tuner and I follow the tune procedure from the manual and the SWR in tune up is 1.1:1 do you have any ideas what might cause this?
Thank You Greg K8ult

50132. Re: [TS-520_820_530_830] TS-520D

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-16 20:38:33 UTC
From: va3pen@...
Topic: 50127 Message: 50132

A small correction. The "D" model was being used in Japan and Korea. I had one of them too. Its power output was 100W (not 50W). When I saw the "S" model when I came here, I thought it would be almost identical to the "D" model except it is Kenwood.

73.
- Ki VA3PEN

---In TS-520_820_530_830@yahoogroups.com, <stilesjoseph@...> wrote :

Joe,

If I remember correctly, the "D" model was for use in Japan and was not for export. Also, I think that the power was limited to 50w

73 Joe
WB7UQU

On Saturday, November 15, 2014 9:03 PM, "k7mks@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

What is the difference between a Trio TS-520D and a Kenwood TS-520?

Thanks joe k7mks

50133. Need L34-2004-05 coil for the Kenwood TS-830S (L41 on RF).

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-16 20:54:45 UTC
From: n612dw@...
Topic: 50133 Message: 50133

Need an L34-2004-05 coil for the Kenwood TS-830S.
It is L41 on the RF board.

Anyone have such a beast?

-bob.w9zv

50134. Re: [TS-520_820_530_830] Need L34-2004-05 coil for the Kenwood TS-830S (L41 on RF).

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-16 21:38:18 UTC
From: Joseph Stiles
Topic: 50133 Message: 50134

Bob,
L-41 or the "antenna step-up transformer" is pure gold. It has been unavailable as a Kenwood part for quite sometime. If you can not findsomeone who has a junk RF board..with a good L-41, the only other choice is to rewind it yourself. Gordon-n6wk(SK) a long time member of this board used to rewind them, but he's gone now. There's a good drawing done by Gordon in the "files" section of this board, regarding the rewinding of L-41. 73 Joe WB7UQU

On Sunday, November 16, 2014 1:28 PM, "n612dw@yahoo.com [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

  Need an L34-2004-05 coil for the Kenwood TS-830S. It is L41 on the RF board.

Anyone have such a beast?
-bob.w9zv
<!--

50135. Hybrid Net Update (November 16, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-16 22:23:35 UTC
From: Mark Gilger
Topic: 50135 Message: 50135

Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

The net started it's existence on November 1st, 2012. The yearly check-in totals are posted at the bottom of this message. It showed we had a 10% increase in our Saturday check-ins and an 8% on Sunday as compared to the 2012 check-ins.

The Saturday's net was run by me, WB0IQK. There were 23 stations checking in under good band conditions.

We had the following number of radios checking in.

4 running TS-520(x)
8 running TS-530(x)
5 running TS-820(x)
4 running TS-830S
0 running TS-511
0 running 599 twins

I was running my Drake 'C' liine & Drake L4B amplifier.

The Sunday net was run by me, WB0IQK. There were 20 stations checking in under fair band conditions. He had the following number of radios checking in.

3 running TS-520(x)
2 running TS-530(x)
2 running TS-820(x)
5 running TS-830S
0 running TS-511
0 running 599 twins

The rest were running non Kenwood hybrid equipment.

He was running my TS-940S & Drake L4B amplifier.

We have been having several people checking in regularly with their TS-430, TS-440, and TS-940□s, which of course is not a hybrid, although over 30+ years old. Everyone is welcome

as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a net control station, please send me an email. Currently it's just myself, WB2KNR and WB0SGA. I would like to get several more. If we do, we can alternate so everyone might be on a 3-4 week rotation. It's a lot of fun and a good way to make sure you station is optimized.

For anyone that has not heard, we have a new web site that WB4HFN is hosting. He currently has a very nice site for Drake, Collins and Heathkit and now Kenwood Hybrids. Good quality manuals plus sale flyers and brochures will be found here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 ☐ Oct. 2012 Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins
Nov. 2013 - Oct. 2014 Saturdays total 842 check-ins, Sunday total 744 check-ins

November 2014, Saturday☐s net total 68, Sunday☐s total = 58 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

50136. RE: [TS-520_820_530_830] Need L34-2004-05 coil for the Kenwood TS-830S (L41 on RF).

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-17 01:30:44 UTC
From: fpath fpath
Topic: 50133 Message: 50136

Bob,

Make sure you have a look at Q1 3SK73GR, these are available in Toshiba brand relatively cheap if you have to go down that path.

73s

Dave

VK5PDL

From: TS-520_820_530_830@yahoogroups.com
To: TS-520_820_530_830@yahoogroups.com
Date: Sun, 16 Nov 2014 12:54:45 -0800
Subject: [TS-520_820_530_830] Need L34-2004-05 coil for the Kenwood TS-830S (L41 on RF).

Need an L34-2004-05 coil for the Kenwood TS-830S.

It is L41 on the RF board.

Anyone have such a beast?

-bob.w9zv

50137. Re: [TS-520_820_530_830] Re: Kenwood TS-530S Normal Operation video

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-17 01:49:31 UTC
From: Louis Wilen
Topic: 50123 Message: 50137

Greg,

Thank you -- and others -- for the kind comments about the video.

If I understand correctly, you are tuning up into a dummy load (as you should) on 40, 20 and 15 meters and the SWR is nearly 1:1. That indicates that the high SWR is caused by factors outside of the rig, such as the tuner, the feedline, and the antenna.

I’ve never used a G5RV, so I can’t give any first-hand advice specific to that antenna. You might look at http://www.w8ji.com/g5rv_facts.htm for some tips. The high SWR appears be normal for this antenna according to what I’m reading.

Without going into too many details on this forum (since the focus is the Kenwood hybrids, not antennas), I’ll say that you should mainly be concerned about the amount of RF power actually radiating from the antenna. The SWR measured at the antenna side of the tuner is not that important when your feedline loss is low – and the feedline loss will be lowest by keeping the coax from the tuner to antenna short and by using reasonably low-loss coax such RG-213 (or better), not RG-8X or RG-58).

Louis
W3VVV

From: mailto:TS-520_820_530_830@yahoogroups.com
Sent: Sunday, November 16, 2014 2:43 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830] Re: Kenwood TS-530S Normal Operation video

What kind of Wattmeter/SWR meter are U using ?
If it is the kind with a calibrate SWR switch and Sensitivity knob you have to set , are you recalibrating it on 15M when you changed bands ?
Those old meters are more sensitive to SWR readings on the higher bands.You have to reset them for each band change.
I have the MFJ948 And the SWR readings are pretty reliable,I don't know what metering the 949 has.
Worse case is you have a connection somewhere between the radio and antenna that is arcing over on 15M when you increase power from tune level to normal operation. I had this happen when I had a wet connection on one of my antennas.

My radio is Ham Radio...CW is Real Radio
73, John...K8JD

From: "krashoc@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com>
To: TS-520_820_530_830@yahoogroups.com
Sent: Sunday, November 16, 2014 10:38 AM
Subject: [TS-520_820_530_830] Re: Kenwood TS-530S Normal Operation video

Hello Louis,

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I have a question if you do not mind. On the other bands my SWR is around 1.5:1 when I transmit, but in 15M it jumps way up to over 4:1. I have a G5RV at 35 feet going into an MFJ-949E tuner and I follow the tune procedure from the manual and the SWR in tune up is 1.1:1 do you have any ideas what might cause this?

Thank You
Greg K8ult

50138. Re: [TS-520_820_530_830] Re: Kenwood TS-530S Normal Operation video

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-17 03:00:23 UTC
From: Louis Wilen
Topic: 50123 Message: 50138

Greg and others:

There is a lot of information and misinformation on the internet and even in some books about SWR, reflected power, and its effect on rigs and stations. Here is an article from Advanced Energy Industries (http://www.advanced-energy.com/) about reflected power that is clear and accurate, and even explains the real reason that the plate of tube gets extremely hot when reflected power (and SWR) is high.

Forward and Reflected Powers. What Do They Mean?
http://www.advanced-energy.com/upload/File/White_Papers/SL-WHITE7-270-01.pdf

Specifically:

Louis
W3VVV

From: mailto:TS-520_820_530_830@yahoogroups.com
Sent: Sunday, November 16, 2014 8:49 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830] Re: Kenwood TS-530S Normal Operation video

Greg,

Thank you -- and others -- for the kind comments about the video.

If I understand correctly, you are tuning up into a dummy load (as you should) on 40, 20 and 15 meters and the SWR is nearly 1:1. That indicates that the high SWR is caused by factors outside of the rig, such as the tuner, the feedline, and the antenna.

I’ve never used a G5RV, so I can’t give any first-hand advice specific to that antenna. You might look at http://www.w8ji.com/g5rv_facts.htm for some tips. The high SWR appears be normal for this antenna according to what I’m reading.

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Louis
W3VVV

From: mailto:TS-520_820_530_830@yahoogroups.com
Sent: Sunday, November 16, 2014 2:43 PM
To: TS-520_820_530_830@yahoogroups.com

Subject: Re: [TS-520_820_530_830] Re: Kenwood TS-530S Normal Operation video

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If it is the kind with a calibrate SWR switch and Sensitivity knob you have to set , are you recalibrating it on 15M when you changed bands ?
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My radio is Ham Radio...CW is Real Radio
73, John...K8JD

From: "krashoc@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com>
To: TS-520_820_530_830@yahoogroups.com
Sent: Sunday, November 16, 2014 10:38 AM
Subject: [TS-520_820_530_830] Re: Kenwood TS-530S Normal Operation video

Hello Louis,

I enjoyed the video for the Kenwood TS-530S, I purchased a TS530s as my first radio. I have had for about 6 months and this video helped to sort out some things I did not quite understand. I have been using it on 40M and 20M mostly, today I tries it on 15 meters.
I have a question if you do not mind. On the other bands my SWR is around 1.5:1 when I transmit, but in 15M it jumps way up to over 4:1. I have a G5RV at 35 feet going into an MFJ-949E tuner and I follow the tune procedure from the manual and the SWR in tune up is 1.1:1 do you have any ideas what might cause this?

Thank You
Greg K8ult

[Non-text portions of this message have been removed]

50139. Re: TS-520D

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-17 03:53:11 UTC
From: James Scribner
Topic: 50127 Message: 50139

Just a general question also,
I guess, from the answers, that would make my TS-820D a radio made for Japan that someone carried stateside?
Thanks in advance
W5SWM-Jim

50140. DG1 cover removal

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-16 22:04:00 UTC
From: Me
Topic: 50133 Message: 50140

Gents
I got the old 820 working real nice today on the sweepstakes contest but the display still goes a bit wonky.
I opened the rig. The case enclosing the dg1 boards has 4 screws on top but looks like one down below needing a 90 degree screw driver to get access. Is this correct?
Ian
Va2ir

50141. Re: [TS-520_820_530_830] DG1 cover removal

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-17 04:10:17 UTC
From: Joseph Stiles
Topic: 50133 Message: 50141

Ian,
It's easier if you take the bottom cover off the rig too, and remove the four(4) screws that hold the DG-1 in. They are along the FIX-VOX board. PLEASE do this with rig disconnected from all power. That way you can get real good access to the boards for cleaning the connectors/pins as a first step. This may solve you "wonky" complaint. The next step would be to rework the 18 or so "through holes" or "vias" they also over time can cause problems. Kenwood even put out a service bulletin on it
73 Joe
WB7UQU

On Sunday, November 16, 2014 7:57 PM, "Me va2ir@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

GentsI got the old 820 working realnice today on the sweepstakes contest but the display still goes a bitwonky.I opened the rig. The caseenclosing the dg1 boards has 4 screws on top but looks like one down belowneeding a 90 degree screw driver to get access. Is this correct?Ian
Va2ir

50142. Re: [TS-520_820_530_830] Re: TS-520D

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-17 04:12:11 UTC
From: Joseph Stiles
Topic: 50127 Message: 50142

Jim,
Could have very well been a member of the military
 73 Joe
WB7UQU

On Sunday, November 16, 2014 7:53 PM, "James Scribner swpthg@gmail.com [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

  Just a general question also,
I guess, from the answers, that would make my TS-820D a radio made for Japan that someone carried stateside?
Thanks in advance
W5SWM-Jim
<!--

50143. Re: Kenwood TS-530S Normal Operation video

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-17 15:52:47 UTC
From: T. Scott Griffin
Topic: 50143 Message: 50143

Hello Greg,

I have a G5RV-Jr, and the one band that I cannot load it up on is 15 meters. If you can load your TS-530S normally into a dummy load on 15 meters than I suggest it may be the antenna. Even with my MFJ tuner, I cannot get the G5RV-Jr to load without very high SWR on 15 meters.

73s, Scott, N6CIC

Sent from Windows Mail

50144. Re: [TS-520_820_530_830] DG1 cover removal

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-17 13:44:07 UTC
From: va2ir@...
Topic: 50133 Message: 50144

Thanks Joseph. I found that the VFO switch (lower RHS) to be very noisy and intermittent. So, before taking out the DG-1, I gave it a good shot of contact cleaner with the lower cover off - cycled the switch a few times, waited 10 minutes for the solvent to flash off, and it works perfectly. Tried it again this morning, good on all bands.

I will see how it goes over the next few days.

Thanks

Ian
VA2IR

50145. Re: Need L34-2004-05 coil for the Kenwood TS-830S (L41 on RF).

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-17 15:12:17 UTC
From: n612dw@...
Topic: 50133 Message: 50145

I guess i forgot to put my signature on my last response, so it was rejected.

lets get back to the topic of L41.... here is another copy of my last message

Hi Joe,

tnx - the coil itself is good, the core is broken (bonehead me broke it trying to move it just a bit farther - couldnt quite get peak... dohhhhhhhh).

L41 is on 1.8 mhz - does it really affect the other bands? i dont need much gain on 160 with the noise floor i have.

ya, i figgered any of the coils/cans are made of Unobtanium by now... just thought someone may have a stash.

im still getting -107 dbm for 0db of audio on a HP400FL with
8.2 ohm dummy for the speaker, HP8648 for SigGen as seen below.

all values based on 0 db on HP-400FL AC voltmeter with load as above. Volume control on radio for this is about 9:20 on the dial.

Band dbm
1.9 -107
3.75 -111.8
7.15 -108.9
10.125 -105.1
14.175 -108.8
18.125 -110.2
21.225 -96.4
24.95 -116.1
28.8 -112.3

but i dont have any frame of reference for if these numbers are "good" or not.

note how dead 15 meters is relatively - yet the cans peaked out fine. Suggestion?

S/N is 7050063, built in mid '86 based on date codes on random parts.

will do MDS check soon (if i remember how), and have yet to sweep the IF response...

incidentally, i noticed that the audio begins flat topping after 1/2 volume is this typical? at 1 o'clock on the knob its really clipping, but this isnt normal volume level either.

i cant tell you enough of how useful this group has been, and the various kenwood hybrid sites have been - its invaluable !!

-bob, W9ZV

50146. RE: [TS-520_820_530_830] Re: Kenwood TS-530S Normal Operation video

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-17 16:24:57 UTC
From: David Boothe
Topic: 50143 Message: 50146

Hi, Greg.

I have two "juniors" (one bought and one home-brew) that I use with my 820S and used my RigExpert AA-54 to scan them over all the bands (including the feed lines). How the antennas act depends on a lot of factors, but mine only had lower SWR (2:1 or less) on 40, 10, and 6 meters. SWR on 20 and 15 are pretty high, but match-able with a tuner--I use an AT-600 Pro II. I was a little surprised that 40 was better than 20, based on what I've read. Mine are both in attics and I have been quite pleased with them, but always assumed you need a tuner with them.

73

Dave

KC3CIP

-----Original Message-----
From: TS-520_820_530_830@yahoogroups.com
[mailto:TS-520_820_530_830@yahoogroups.com]
Sent: Monday, November 17, 2014 10:53
To: TS-520_820_530_830@yahoogroups.com
Subject: [TS-520_820_530_830] Re: Kenwood TS-530S Normal Operation video

Hello Greg,

I have a G5RV-Jr, and the one band that I cannot load it up on is 15 meters. If you can load your TS-530S normally into a dummy load on 15 meters than I suggest it may be the antenna. Even with my MFJ tuner, I cannot get the G5RV-Jr to load without very high SWR on 15 meters.

73s, Scott, N6CIC

Sent from Windows Mail

50147. Progress reviving a TS-520s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-17 17:02:33 UTC
From: kb3dxr@...
Topic: 50147 Message: 50147

I have been a lurker here for quite some time and this is my first post. I picked up a long idled TS-520s at a local ham-fest a few years back. I have finally replaced the HV caps, screen and driver caps and attempted to power it up for the first time last night. Since it is my intention to only test the receive portion of the radio at this time, I had the filament and screen voltages turned off. Initial results are that the internal speaker is dead, there is a hum on the audio, it is difficult tuning in stations, and when I am able to, the voices sound metallic, like highly compressed digital audio. When I switch on the 25kHz marker, it appears across the band but it sounds like a buzz-saw and not a solid tone.

I have not replaced any other electrolytic caps at this time and only replaced the ones previously mentioned over concerns of damaging the radio at power-up if they had failed. Would the electrolytic caps on the rectifier board cause hum on the audio if they have dried out? Should the 25kHz marker sound like a solid tone?

73,

Christopher KB3DXR

50148. My first question and presentation ...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-17 17:17:49 UTC
From: Dondi
Topic: 50148 Message: 50148

Dear Ham
I'm new to the list and would present me soon, I'm HAM from 1992 and 1969
SWR'm ... Electronic Technician and working in the area railway ...
I returned to the Kenwood after a long time wandering ... hi logo will replace
the photo of yaesu by my new / old TS830S, already had a TS530S.
I bought this deserves some tweaking and cleaning ... for now the key bands
10m needs a cleaning, so smeter accepts stations with 1000w hihi ... I saw the
group some quotes on smeter issues ...

Well it's my first question ...
I'm thinking of one adiquirir Astatic D104 to use it in 830, is a good match
for him?

73

--
-- .- -..
73&CUL
PY2TR
DONDI.
GG67RA

50149. Re: [TS-520_820_530_830] My first question and presentation ...

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-17 17:26:06 UTC
From: Mike W5RKL
Topic: 50148 Message: 50149

Hello Dondi,

The TS-830 has a wide microphone impedance range from 500 ohms to 50K ohms. A typical D-104 microphone has a high impedance and will work fine with the TS-830, no changes required to the microphone or the TS-830. If the D-104 is the amplified microphone you should keep the microphone volume level (adjusted on the bottom of the stand) to a low level and the TS-830's MIC gain set so the ALC peak indication during normal sideband transmissions is within the ALC meter scale. It's very easy to over drive the TS-830 speech amplifier. Also, do not use the TS-830s audio processor with an amplified D-104 microphone.

73
Mike W5RKL
www.w5rkl.com

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

50150. Re: Need L34-2004-05 coil for the Kenwood TS-830S (L41 on RF).

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-18 01:41:22 UTC
From: wagstw46@...
Topic: 50133 Message: 50150

Bob:

Here are my TS-830S results from a pretty well aligned rig and one just coming in the door.These are with 8.2 ohm dummy load and using a HP3400A reading the 0dB level (peaked with the VFO and the Drive Control). Also have the AF gain at approx 9:30 and the Tone control full CW or full treble. Mode CW. Using a calibrated Wavetek 3002 RF sig gen.

1.900 = -121.5 dBm
3.750 = -120.7 dBm
7.150 = -118.8 dBm
10.125 = -115.9 dBm
14.175 = -120.6 dBm
18.125 = -119.5 dBm
21.225 = -119.0 dBm
24.950 = -121.3 dBm
28.800 = -117.9 dBm

1.900 = -113.6 dBm
3.750 = -113.8 dBm
7.150 = -114.4 dBm
10.125 = -109.2 dBm
14.175 = -113.5 dBm
18.125 = -113.7 dBm
21.225 = -113.9 dBm
24.950 = -118.5 dBm
28.800 = -115.1 dBm

You might try contacting Dick Housden at W0NTA.Com. He may have some rewound L41s that he would be willing to sell. I have a couple but simply cannot let any go as I need them for customer radios. I usual wind two or three to get one good one. Eyes and hands arent what they use to be!

As for 15 meters. You may have bad Ant/Mixer bandswitch contacts? Is RF drive and output good on 15 meters? Test Drive with SG switch off in CW mode and see if you can get FSD ALC indication and how much Car Level does it take in contrast to other bands.

Terry K9TW

50151. Ts520 update

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-18 04:07:09 UTC
From: weslugo@...
Topic: 50151 Message: 50151

Well after one night of fun listening to CQ Contest I turned on the 520 tonight tuned it up was listening to aukward noise like in a tunnel coming from radio, than all the sudden darkness to the transceiver and a smell like an old basement, so here is some more fun, yes fun, it was nice just listening to the contest but now I get to delv into another aspect of amateur radio, funny I still need experience building antenna. I will replace fuse and order some new final to start. Sg switch is ok. Any advice let me know, if not I will keep you posted on my progress. Oh by the way, I was able to snag a Heathkit Im28 this weekend online. Thanks. Oh yea one more thing I never even made contact with anyone. HA:)))
Mark
KG5ERC

50152. Re: [TS-520_820_530_830] Re: Need L34-2004-05 coil for the Kenwood TS-830S (L41 on RF).

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-18 13:54:37 UTC
From: CROOKS David
Topic: 50133 Message: 50152

Hi Terry,
Nice comparison.
Next time you align a TS820, would you kindly record the same for reference?

For clarity :

"...8.2 ohm dummy load..." typo?

"...well aligned rig and one just coming in..."
Is the first table from the incoming rig? (higher negative dBm)

Dave f4eyk

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

50153. Re: [TS-520_820_530_830] Ts520 update

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-18 14:00:43 UTC
From: Karl Schwab
Topic: 50151 Message: 50153

Mark; before you put that old TS-520 in the transmit mode, be sure that the antenna output is into a dummy load! It can save your 3 expensive tubes! I have a TS-520 and a TS-820S, nice old radios, but they take care in tuning them up and getting them on the air. 73, de KO8S, Karl

On Monday, November 17, 2014 11:25 PM, "weslugo@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

<!--#yiv9082929141 #yiv9082929141 .yiv9082929141ygrp-photo-title{clear:both;font-size:smaller;height:15px;overflow:hidden;text-align:center;width:75px;}#yiv9082929141 div.yiv9082929141ygrp-photo{background-position:center;background-repeat:no-repeat;background-color:white;border:1px solid black;height:62px;width:62px;}#yiv9082929141 div.yiv9082929141photo-title a, #yiv9082929141 div.yiv9082929141photo-title a:active, #yiv9082929141 div.yiv9082929141photo-title a:hover, #yiv9082929141 div.yiv9082929141photo-title a:visited {text-decoration:none;}#yiv9082929141 div.yiv9082929141attach-table div.yiv9082929141attach-row {clear:both;}#yiv9082929141 div.yiv9082929141attach-table div.yiv9082929141attach-row div {float:left;}#yiv9082929141 p {clear:both;padding:15px 0 3px 0;overflow:hidden;}#yiv9082929141 div.yiv9082929141ygrp-file {width:30px;}#yiv9082929141 div.yiv9082929141attach-table div.yiv9082929141attach-row div div a {text-decoration:none;}#yiv9082929141 div.yiv9082929141attach-table div.yiv9082929141attach-row div div span {font-weight:normal;}#yiv9082929141 div.yiv9082929141ygrp-file-title {font-weight:bold;}#yiv9082929141 --> <!--#yiv9082929141 #yiv9082929141ygrp-mkp {border:1px solid #d8d8d8;font-family:Arial;margin:10px 0;padding:0 10px;}#yiv9082929141 #yiv9082929141ygrp-mkp hr {border:1px solid #d8d8d8;}#yiv9082929141 #yiv9082929141ygrp-mkp #yiv9082929141hd {color:#628c2a;font-size:85%;font-weight:700;line-height:122%;margin:10px 0;}#yiv9082929141 #yiv9082929141ygrp-mkp #yiv9082929141ads {margin-bottom:10px;}#yiv9082929141 #yiv9082929141ygrp-mkp .yiv9082929141ad {padding:0 0;}#yiv9082929141 #yiv9082929141ygrp-mkp .yiv9082929141ad p {margin:0;}#yiv9082929141 #yiv9082929141ygrp-mkp .yiv9082929141ad a {color:#0000ff;text-decoration:none;}-->

Well after one night of fun listening to CQ Contest I turned on the 520 tonight tuned it up was listening to aukward noise like in a tunnel coming from radio, than all the sudden darkness to the transceiver and a smell like an old basement, so here is some more fun, yes fun, it was nice just listening to the contest but now I get to delv into another aspect of amateur radio, funny I still need experience building antenna. I will replace fuse and order some new final to start. Sg switch is ok. Any advice let me know, if not I will keep you posted on my progress. Oh by the way, I was able to snag a Heathkit Im28 this weekend online. Thanks. Oh yea one more thing I never even made contact with anyone. HA:)))Mark KG5ERC

50154. Re: [TS-520_820_530_830] Re: Need L34-2004-05 coil for the Kenwood TS-830S (L41 on RF).

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-18 16:51:00 UTC
From: wagstw46@...
Topic: 50133 Message: 50154

Hi Dave:

Hard to find a 8.0 ohm power resistor but can make one from a series/parallel combo. Easy to find a "sand" type 8.2 ohm power resistor. Mine is a a Dale 20 watt unit I had in the junk box. Not critical to be precisely at 8.0 ohms. Just best to use 8 ohm dummy load on ext speaker jack so you dont rattle or destroy your little 3 inch speaker in the rig when doing these kinds of measurements.

The higher the negative dBm number the lower the uv signal level. Higher is better. A good functioning and well aligned TS820 or TS830 will have a noise floor of approx -136dBm or so. This number varies with the band due to atmospheric noise differences so I typically take it on 20 meters for comparison reasons. I always measure the as found and as left MDS on all hybrids that I service. Minimum Discernable Signal level is the signal level required at the SO-239 to produce an output that is 3dB above the noise. It is normal to do this measurement in CW mode at approx 500hz bandswidth.

I previously posted on this forum how average ham with a analog VTVM with a dB scale on it can easily measure the receiver noise gain. I dont remember the Message number but can find this procedure by Googling. Rob Sherwoods power points from Dayton Hamfest usually always cover it as well. I would look at 2010 and 2011 presentations.

Surprisingly some techs who work on these radios for a living dont understand how to do these measurements and dont have a calibrated RF signal generator. Because of all the strong signals on the air they just do a rough alignment using the S meter and call it good enough and the average owner wont know the difference unless they can do some AB testing between rigs on same antenna and same weak off air signals.

Terry K9TW

50155. Smeter, axis bushings... in the 830.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-18 12:24:54 UTC
From: Dondi
Topic: 50155 Message: 50155

HI ALL!
I made the switch cleaning bands of my 830 and the smeter returned to work
... had dirt crusts what evil occasioned contact ... had a sad sight, all
the plastic bushings are cracked, those on the button the axis drive,
someone could direct me where to buy, I have to ask to send the mail because
I am in Brazil. In the'll install an amplification with electret microphone to
experience, that tonight then more for the weekend will test the TX antenna
in ... (R7 cuschcraft) .....

TNX!

-- .- -..
73&QRV!
PY2TR
DONDI.
GG67RA

50156. Re: Need L34-2004-05 coil for the Kenwood TS-830S (L41 on RF).

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-18 16:06:08 UTC
From: n612dw@...
Topic: 50133 Message: 50156

Terry,
tnx much for the comparison data... this gives me a framework for a perspective. I'm going to squirrel that away for reference. also tnx for the reference for Dick H.

yes i'v gone thru the bandswitch twice now, cleaning contacts etc... and had to pull the RF board to fix broken solder connections on the bottom side of the board on the driver tube socket.

My L41 is good, but the slug is cracked. i assume the broken coil slug on the 1.8 only really affects 160m.. its down about 8 db from peaked before bonehead me snapped it !!

since that band doesn't require peak gain, i can live with it if i cant find one... my noise floor on 160 far exceeds the rx capabilities, and i use the attenuator normally anyway on that band.

what is the equation used for the Kenwood db numbers to dbm conversion that you used in the table that you made (tech note i downloaded) ?

dave, the 8.2 ohm was a dummy load for the Speaker/audio outputs... NOT for the xmtr.

-bob, w9zv

50157. Re: Ts520 update

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-18 07:39:24 UTC
From: beeson.neil@...
Topic: 50151 Message: 50157

Mark After sitting for a few years you should've brought it up on a Variac slowly. I have 2 520's and both were on the variac for 24 hours each before any tune up. The caps get dry and don't like sudden power so you have to gently warm em up 73
Neil
VK6NSB

50158. Re: [TS-520_820_530_830] Ts520 update

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-18 18:41:56 UTC
From: w5rkl@...
Topic: 50151 Message: 50158

Mark,

You said you were going to replace the fuse and order new final tubes. Why are you ordering new tubes when you have no idea what caused the fuse to blow in the first place???

Unless you know for sure, based on results from troubleshooting, that the tubes are at fault then you are, at this point, guessing at the source of the problem plus you are wasting time and money that more than likely will not fix your problem!!

I recommend you set the SG switch to OFF, set the HEATER switch to OFF, replace the fuse with a correct rated fuse (6 amp for 120VAC), then power up the 520. If the fuse blows right away then the tubes are more than likely NOT the source of the problem.

73
Mike W5RKL
W5RKL http://www.w5rkl.com

W5RKL http://www.w5rkl.com Welcome to my Amateur Radio website. 73 Mike W5RKL email: w5rkl@yahoo.com

View on www.w5rkl.com http://www.w5rkl.com
Preview by Yahoo

50159. Powering up LV DC

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-18 19:35:30 UTC
From: roberteleazer@...
Topic: 50159 Message: 50159

I have a TS-520 with a blown (as in actually smoking) power supply board that I am going to resume trying to repair. The previous owner had a serious power supply problem and disconnected all of the power supply leads and tacked them back together with jumper wires, presumably so he could isolate which section was causing the power supply problem.

I have replaced the power supply board with a rebuilt one and I have been replacing all of the caps and tracing where the disconnected power supply wires go. I have not found any caps that were exploded or even shorted, but I have found some that have a very rapid decay time after being charged up.

I thought I would try powering up just the low voltage DC section using an external power supply and see how that works. Have any of y'all tried that approach and do you have any recommendations on it?

Thanks!

Robert
WB5WSV

50160. Re: [TS-520_820_530_830] Powering up LV DC

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-18 19:50:47 UTC
From: Bob
Topic: 50159 Message: 50160

Robert: If you have not already done so, I would start at the power transformer, all windings disconnected. It is possible that one or more windings may have been damaged. If you are not sure what to do, just e-mail.
Usual warnings about high voltage apply, and I would suggest a resistance test first when all windings are totally disconnected. This will let you know if there are any open windings or dead shorts. I don't know what proper readings in ohms for the several windings are, but I would think that HV would be the highest, followed by the primary. Even the filament windings should have some resistance. Once you are certain about any shorts, then you can test for proper voltages.
Good luck
Bob WA2JAJ/4

From: "roberteleazer@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com>
To: TS-520_820_530_830@yahoogroups.com
Sent: Tuesday, November 18, 2014 2:35 PM
Subject: [TS-520_820_530_830] Powering up LV DC

I have a TS-520 with a blown (as in actually smoking) power supply board that I am going to resume trying to repair. The previous owner had a serious power supply problem and disconnected all of the power supply leads and tacked them back together with jumper wires, presumably so he could isolate which section was causing the power supply problem.

I have replaced the power supply board with a rebuilt one and I have been replacing all of the caps and tracing where the disconnected power supply wires go. I have not found any caps that were exploded or even shorted, but I have found some that have a very rapid decay time after being charged up.

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Thanks!

Robert
WB5WSV

<!--

50161. Re: [TS-520_820_530_830] Re: Need L34-2004-05 coil for the Kenwood TS-830S (L41 on RF).

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-18 20:33:29 UTC
From: Jim
Topic: 50133 Message: 50161

Radio Shack carries 8 ohm 20W resistors as well-

http://www.radioshack.com/8-ohm-non-inductive-resistor/2710120.html#.VGus245H5iw
http://www.radioshack.com/8-ohm-non-inductive-resistor/2710120.html#.VGus245H5iw

Jim, KC1RM

this ms edited as it contained already posted material. 73 Joe wb7uqu

50162. Re: [TS-520_820_530_830] Smeter, axis bushings... in the 830.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-18 21:15:29 UTC
From: lotek1@...
Topic: 50155 Message: 50162

I have gotten a few 830 switches, used, of of EBAY. . .no problems.

Phil K3EZU

----- Original Message -----

From: "Dondi py2tr.radio@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com>
To: "TS-520 820 530 830" <TS-520_820_530_830@yahoogroups.com>
Sent: Tuesday, November 18, 2014 7:24:54 AM
Subject: [TS-520_820_530_830] Smeter, axis bushings... in the 830.

HI ALL !
I made the switch cleaning bands of my 830 and the smeter returned to work ... had dirt crusts what evil occasioned contact ... had a sad sight , all the plastic bushings are cracked , those on the button the axis drive , someone could direct me where to buy , I have to ask to send the mail because I am in Brazil. In the 'll install an amplification with electret microphone to experience , that tonight then more for the weekend will test the TX antenna in ... (R7 cuschcraft) .....

TNX!

-- .- -..
73&QRV!
PY2TR
DONDI.
GG67RA

50163. RE: [TS-520_820_530_830] Smeter, axis bushings... in the 830.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-18 21:21:02 UTC
From: fpath fpath
Topic: 50155 Message: 50163

Try Ken, K4EAT.com, he has everything you need.

73
Dave
VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: TS-520_820_530_830@yahoogroups.com
Date: Tue, 18 Nov 2014 21:15:29 +0000
Subject: Re: [TS-520_820_530_830] Smeter, axis bushings... in the 830.

I have gotten a few 830 switches, used, of of EBAY. . .no problems.

Phil K3EZU

From: "Dondi py2tr.radio@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com>
To: "TS-520 820 530 830" <TS-520_820_530_830@yahoogroups.com>
Sent: Tuesday, November 18, 2014 7:24:54 AM
Subject: [TS-520_820_530_830] Smeter, axis bushings... in the 830.

HI ALL!
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TNX!
-- .- -..
73&QRV!
PY2TR
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GG67RA

50164. Re: Need L34-2004-05 coil for the Kenwood TS-830S (L41 on RF).

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-18 22:04:42 UTC
From: wagstw46@...
Topic: 50133 Message: 50164

Bob:

I am pretty sure I posted on this forum before the formula for the dB to dBm conversion chart I developed, but not always easy to retrieve. Maybe it was on another forum?

Remember KW uses the odd ball reference 0.50uv = 0dB and not 1.0uv. You need a calculator with Anti-log key. If no Anti-log key it may have a 2nd key.

Here in America most RF sig gens output attenuators and panel meters are labeled in UV (microvolts) and/or most commonly in dBm. Apparently in Japan the signal generator output is in dBu?

Here is an example:

A KW hybrid service manual tells you to inject an 8dB signal (common for S meter cal). How many UV = 8dB? and How many dBm is that?

1. 8 = 20 log X / 0.50
2. 8/20 = 0.4 = log X/ 0.50
3. Anti-log of 0.40 = 2.512
4. (0.50)(2.512) = 1.2559uv
5. 8dB = 1.26uv

When the service manual tells you to inject 8db you now know to set your step attenuator for 1.26uv output.

There are numerous online calculators and spread sheets that convert from Uv to dBm. 1.26uv = -105 dBm. If you dont have spread sheet or calculator and want to calculate it then do this:

To go the other way use 224mv = 0 dBm reference

1. X dBm = 20 log 1.26uv/224mv
2. 1.26 x 10 to -6 / 224 x 10 to -3 = 5625 x 10 to -9 or 0.000005625
3. Log of 0.000005625 = -5.2499
2. (20)(-5.2499) = -104.997
3. 1.26uv = -105 dBm

Terry K9TW

50165. TS-820S display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-18 22:19:42 UTC
From: bixbys@...
Topic: 50165 Message: 50165

I had an unreadable digital display on the bands above 20 meters ever since I purchased the used rig a few months ago. So today I finally got around to removing the digital display module & tore into it. Removed both circuit boards and gave all contacts a good scrubbing with Deoxit. Burnished the 3 circuit board ground points on one of the boards, reassembled and tested. Display works great now!

It can be done very easily! Just be patient and careful when removing the boards from it's chassis and the connecting pins.

Jeff
W4BIX

50166. Re: [TS-520_820_530_830] TS-820S display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-18 22:31:28 UTC
From: Joseph Stiles
Topic: 50165 Message: 50166

Jeff,
Glad you had an 'easy' fix...I was not as lucky..had to rework the plated through-holes.
73 Joe
WB7UQU

On Tuesday, November 18, 2014 2:26 PM, "bixbys@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

I had an unreadable digital display on the bands above 20 meters ever since I purchased the used rig a few months ago. So today I finally got around to removing the digital display module & tore into it. Removed both circuit boards and gave all contacts a good scrubbing with Deoxit. Burnished the 3 circuit board ground points on one of the boards, reassembled and tested. Display works great now!
It can be done very easily! Just be patient and careful when removing the boards from it's chassis and the connecting pins.
JeffW4BIX
<!--

50167. Re: [TS-520_820_530_830] Re: Need L34-2004-05 coil for the Kenwood TS-830S (L41 on RF).

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-18 22:46:24 UTC
From: CROOKS David
Topic: 50133 Message: 50167

Thanks Terry, very useful.
Dave f4eyk

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

50168. Re: [TS-520_820_530_830] Powering up LV DC

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-18 23:19:02 UTC
From: roberteleazer@...
Topic: 50159 Message: 50168

Bob:

Yep, I have done that. I disconnected all the wires coming from the power supply board and noted the smoke that resulted when powered up. I noted that the board itself was smoking and while I saw some evidence of smoke affecting the case saw no other burned areas. I checked the voltages at the power transformer and found them Okay.

I also noted that for some reason someone had disconnected the large HV filter caps and hooked them directly to the HV AC with no diodes in between (!!) I don't know if this was an error or some strange form of troubleshooting but I am glad I found that before powering it up for the first time.

I have been doing other things for the past several months and I hope to finally get back to work on the set tomorrow.

By the way, if Mike W5RKL is still collecting old power supply boards I may have one for him.

Thanks,

Robert
WB5WSV

50169. Re: [TS-520_820_530_830] Powering up LV DC

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-18 23:39:17 UTC
From: Bob
Topic: 50159 Message: 50169

Ok, good. AC on electrolytics or reverse polarity can sometimes provide an explosion! Good luck with it. I've got an '830s to troubleshoot for reduced output - first step will be those cathode resistors....but then I got distracted by a Heathkit Marauder I bought, and an HQ-170 that sat in a box unopened for ten years after I bought it!
73
Bob WA2JAJ/4
  From: "roberteleazer@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com>
To: TS-520_820_530_830@yahoogroups.com
Sent: Tuesday, November 18, 2014 6:19 PM
Subject: Re: [TS-520_820_530_830] Powering up LV DC

  Bob:

Yep, I have done that. I disconnected all the wires coming from the power supply board and noted the smoke that resulted when powered up. I noted that the board itself was smoking and while I saw some evidence of smoke affecting the case saw no other burned areas. I checked the voltages at the power transformer and found them Okay.

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By the way, if Mike W5RKL is still collecting old power supply boards I may have one for him.

Thanks,

Robert
WB5WSV

50170. Re: [TS-520_820_530_830] Re: Need L34-2004-05 coil for the Kenwood TS-830S (L41 on RF).

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-18 23:48:42 UTC
From: wagstw46@...
Topic: 50133 Message: 50170

Dave:

Per your request:

I have 3 TS-820s rigs here now and just starting on one that owner reports has no RF output but no known receiver issues. Of course I appreciate what the owner reports but I always reserve judgement on that feedback. Each mans definition of quality differs. Reasonably accurate measurements takes subjectivity out of it.

I once had a customer complain about how noisy his receiver was when he got it back. He stated that before it was very quiet and signals just seemed to suddenly jump out at him as he tuned across the bands. I wrote back and explained what the RF gain pot and RF attenuator was for and that he was formerly primarily listening to operators running power and using gain antennas. He wrote back and said he didnt care if he couldnt hear "QRP" stations! I told him how to turn his RF-1 voltage down to reduce the AGC bus voltage and reduce the gain of the IF and RF gain controlled devices. He was happy again!

I repeated on USB as not certain if you have CW filter or not? These were taken with the AF gain pot at approx 9:30 or half way between #2 and # 3 position.

CW

1.900 = -113.5 dBm
3.750 = -115.2
7.150 = -112.6
14.175 = -112.9
21.225 = -112.5
28.800 = -112.2

SSB

1.900 = -114.4 dBm
3.750 = -116.3
7.150 = -114.7
14.175 = -115.2
21.225 = -113.5
28.800 = -114.2

If you are not certain here are the corresponding uv levels involved.
-112dBm = 0.560uv
-113dBm = 0.506uv
-114dBm = 0.446uv
-115dBm = 0.398uv

Terry K9TW

50171. RE: [TS-520_820_530_830] TS-820S display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-19 02:59:16 UTC
From: David Boothe
Topic: 50165 Message: 50171

Jeff,
How did the display look on 15 and 10 meters?
Thanks
Dave
KC3CIP

50172. RE: [TS-520_820_530_830] Smeter, axis bushings... in the 830.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-19 01:35:05 UTC
From: bauertom@...
Topic: 50155 Message: 50172

Dave, Did you mean Ken K4EAA?
K4EAA Parts Page http://www.k4eaa.com/parts.htm

http://www.k4eaa.com/parts.htm

K4EAA Parts Page http://www.k4eaa.com/parts.htm Kenwood Hard to Find Parts Sales Page shaft couplers panel lamps relay coils hardware feet schematic capacitor Kenwood connectors repair kits resistors

View on www.k4eaa.com http://www.k4eaa.com/parts.htm
Preview by Yahoo

73
Tom
KE0ABA

50173. TS-830s bandswitch

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-18 22:53:58 UTC
From: Steven Springer
Topic: 50173 Message: 50173

Hello to group, just replaced the band switch coupler with a solid brass one and all is well. However, I noticed for the first time that the band switch has no left and right stop. The switch rotates 360 degrees. Is this correct? I never paid any attention to this before so was wondering if I hosed something when replacing the coupler. Thanks, Steve K0SJS

50174. Re: [TS-520_820_530_830] TS-830s bandswitch

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-19 03:40:37 UTC
From: W5RKL
Topic: 50173 Message: 50174

Steve,

Yes, the TS-830 band switch rotates 360 degree, no stops.

73
Mike W5RKL
www.w5rkl.com

On 11/18/2014 4:53 PM, Steven Springer k0sjs@...
[TS-520_820_530_830] wrote:
> Hello to group, just replaced the band switch coupler with a solid
> brass one and all is well. However, I noticed for the first time that
> the band switch has no left and right stop. The switch rotates 360
> degrees. Is this correct? I never paid any attention to this before
> so was wondering if I hosed something when replacing the coupler. Thanks,
>
> Steve K0SJS
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

50175. Re: TS-830s bandswitch

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-19 03:43:55 UTC
From: k0sjs@...
Topic: 50173 Message: 50175

Whew!!, thanks Mike.

Steve K0SJS

50176. RE: [TS-520_820_530_830] Smeter, axis bushings... in the 830.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-19 09:08:30 UTC
From: fpath fpath
Topic: 50155 Message: 50176

sorry but when typing from phone it doesn't always work. you have the correct web page for ken, all top quality and great ham to deal with, even though it is his xyl that does the orders

73's
Dave
VK5PDL

From: TS-520_820_530_830@yahoogroups.com
To: TS-520_820_530_830@yahoogroups.com
Date: Tue, 18 Nov 2014 17:35:05 -0800
Subject: RE: [TS-520_820_530_830] Smeter, axis bushings... in the 830.

Dave,Did you mean Ken K4EAA?K4EAA Parts Page K4EAA Parts Page Kenwood Hard to Find Parts Sales Page shaft couplers panel lamps relay coils hardware feet schematic capacitor Kenwood connectors repair kits resistors View on www.k4eaa.com Preview by Yahoo

73TomKE0ABA

50177. Re: [TS-520_820_530_830] Re: Need L34-2004-05 coil for the Kenwood TS-830S (L41 on RF).

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-19 12:47:17 UTC
From: CROOKS David
Topic: 50133 Message: 50177

Thanks for the 820 info Terry.
Dave f4eyk

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

50178. TS-820 and Ameritron ARB-704

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-19 13:55:11 UTC
From: frank.reckenberg@...
Topic: 50178 Message: 50178

I have a used AL-811H amp that I want to use with my TS-820 but I can't seem to find any information on building an interface cable/parts. Also looked for a cable I could purchase with no luck. Any help is appreciated!

Frank
KM4FVI

50179. Re: TS-820 and Ameritron ARB-704

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-19 14:45:41 UTC
From: w5rkl@...
Topic: 50178 Message: 50179

Frank,

What "interface" are you referring to?

Have you been told you need an amplifier interface to connect your TS-820 to your AL-811H amplifier? If so, don't believe any of that non-sense!! You do NOT need an amplifier interface to connect your TS-820 to your AL-811H amplifier!!

All you need is an 8 pin octal plug which can be found on eBay or other sources. The cable can be simple shield cable found in DVD/VCR player/recorder boxes. Simply cut one end off leaving the RCA plug on the other end. Connect the cut end as follows, one cable for the amplifier's RELAY and one for the amplifier's ALC connection.

1. ALC connection. Strip the covering off the cut end of the cable. Connect the center wire to pin 6 and the shield (ground) to pin 1 or 4 on the 820's 8 pin plug.
2. RELAY connection. Strip the covering off the cut end of the cable. Connect the Center wire to pin 5 and the shield to pin 1 or 4.

Plug the RELAY Cable RCA plug into the amplifier's rear panel RELAY socket.
Plug the ALC Cable RCA plug into the amplifier's rear panel ALC socket

That's ALL you have to do!!!!

READ the AL-811H amplifier's manual and perform the amplifier's ALC adjustment as outlined in the amplifier's manual!!!

The AL-811H relay voltage is 12VDC at approximately 100ma when the relay is energized. The amplifier relay terminal (N.O. "Normally Open" terminals pin 5) in the TS-820 can easily handle that DC voltage.

73
Mike W5RKL
W5RKL http://www.w5rkl.com

W5RKL http://www.w5rkl.com Welcome to my Amateur Radio website. 73 Mike W5RKL email: w5rkl@yahoo.com

View on www.w5rkl.com http://www.w5rkl.com
Preview by Yahoo

50180. Re: [TS-520_820_530_830] Re: TS-820 and Ameritron ARB-704

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-19 15:43:14 UTC
From: Karl Schwab
Topic: 50178 Message: 50180

Thanks Mike; I like your detailed info on the a keyer interface being needed on the '820. I suspect that the same applies on the '520 using the old Heathkit SB-200/220 amplifiers. Keep writing these great tips, 73, de Karl, KO8S

On Wednesday, November 19, 2014 9:45 AM, "w5rkl@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

#yiv7370287275 #yiv7370287275 -- .yiv7370287275ygrp-photo-title{clear:both;font-size:smaller;height:15px;overflow:hidden;text-align:center;width:75px;}#yiv7370287275 div.yiv7370287275ygrp-photo{background-position:center;background-repeat:no-repeat;background-color:white;border:1px solid black;height:62px;width:62px;}#yiv7370287275 div.yiv7370287275photo-title a, #yiv7370287275 div.yiv7370287275photo-title a:active, #yiv7370287275 div.yiv7370287275photo-title a:hover, #yiv7370287275 div.yiv7370287275photo-title a:visited {text-decoration:none;}#yiv7370287275 div.yiv7370287275attach-table div.yiv7370287275attach-row {clear:both;}#yiv7370287275 div.yiv7370287275attach-table div.yiv7370287275attach-row div {float:left;}#yiv7370287275 p {clear:both;padding:15px 0 3px 0;overflow:hidden;}#yiv7370287275 div.yiv7370287275ygrp-file {width:30px;}#yiv7370287275 div.yiv7370287275attach-table div.yiv7370287275attach-row div div a {text-decoration:none;}#yiv7370287275 div.yiv7370287275attach-table div.yiv7370287275attach-row div div span {font-weight:normal;}#yiv7370287275 div.yiv7370287275ygrp-file-title {font-weight:bold;}#yiv7370287275 #yiv7370287275 #yiv7370287275 -- #yiv7370287275ygrp-mkp {border:1px solid #d8d8d8;font-family:Arial;margin:10px 0;padding:0 10px;}#yiv7370287275 #yiv7370287275ygrp-mkp hr {border:1px solid #d8d8d8;}#yiv7370287275 #yiv7370287275ygrp-mkp #yiv7370287275hd {color:#628c2a;font-size:85%;font-weight:700;line-height:122%;margin:10px 0;}#yiv7370287275 #yiv7370287275ygrp-mkp #yiv7370287275ads {margin-bottom:10px;}#yiv7370287275 #yiv7370287275ygrp-mkp .yiv7370287275ad {padding:0 0;}#yiv7370287275 #yiv7370287275ygrp-mkp .yiv7370287275ad p {margin:0;}#yiv7370287275 #yiv7370287275ygrp-mkp .yiv7370287275ad a {color:#0000ff;text-decoration:none;}#yiv7370287275

Frank,

What "interface" are you referring to?

Have you been told you need an amplifier interface to connect your TS-820 to your AL-811H amplifier? If so, don't believe any of that non-sense!! You do NOT need an amplifier interface to connect your TS-820 to your AL-811H amplifier!!

All you need is an 8 pin octal plug which can be found on eBay or other sources. The cable can be simple shield cable found in DVD/VCR player/recorder boxes. Simply cut one end off leaving the RCA plug on the other end. Connect the cut end as follows, one cable for the amplifier's RELAY and one for the amplifier's ALC connection.

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2. RELAY connection. Strip the covering off the cut end of the cable. Connect the Center

wire to pin 5 and the shield to pin 1 or 4.

Plug the RELAY Cable RCA plug into the amplifier's rear panel RELAY socket.
Plug the ALC Cable RCA plug into the amplifier's rear panel ALC socket

That's ALL you have to do!!!!

READ the AL-811H amplifier's manual and perform the amplifier's ALC adjustment as outlined in the amplifier's manual!!!

The AL-811H relay voltage is 12VDC at approximately 100ma when the relay is energized. The amplifier relay terminal (N.O. "Normally Open" terminals pin 5) in the TS-820 can easily handle that DC voltage.

73
Mike W5RKL
W5RKL
| |
| | W5RKL Welcome to my Amateur Radio website. 73 Mike W5RKL email: w5rkl@... | |
| View on www.w5rkl.com | Preview by Yahoo |
| |

50181. Re: *** SPAM ***Re: [TS-520_820_530_830] Re: TS-820 and Ameritron ARB-704

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-19 17:12:45 UTC
From: Mike W5RKL
Topic: 50178 Message: 50181

Actual Karl, the SB-200/220 and the SB-201 and SB-221 Heathkit amplifiers have a much higher relay voltage, approximately 110VDC.

If you have any doubt as to what an amplifier's relay voltage and current is, you can use a DVM/DMM to measure the amplifier's relay voltage and the amplifier's relay current. Most DVM/DMMs have a voltage overload protection circuit, read the DVM/DMMs manual for details.

To measure the amplifier's relay voltage:

1. Set the DVM/DMM to measure DC voltage, set to 200VDC to start.
2. Connect the DVM/DMM's "RED" probe lead to the amplifier's relay socket's center terminal and the DVM/DMM's "BLACK" lead to the amplifier's chassis.
3. Switch the amplifier ON and set the STBY/OPR switch to OPR and read the amplifier's relay voltage on the DVM/DMM. IF necessary change the DVM/DMM's DC voltage level setting to a lower DC level until you see the approximately relay DC voltage.

To measure the relay's current level:

1. Change the DVM/DMM to measure "current", typically requires moving the DVM/DMM"s "RED" probe to the DVM/DMM's "20A" or "mA" socket.
2. Connect the DVM/DMM RED probe to the amplifier's RELAY socket's center terminal and the DVM/DMM's BLACK lead to the amplifier's chassis.
3. Connect the amplifier to a 50 ohm dummy load, do NOT apply any RF drive.
4. Set the amplifier's STBY/OPR switch to STBY
5. Power up the amplifier, the amplifier's relay should NOT energize.
6. Switch the STBY/OPR switch to OPR, the amplifier's relay should energize. Read the amplifier's relay current on the DVM/DMM.
7. Set the amplifier's STBY/OPR switch to STBY, amp's relay should de-energize. Power down the amplifier.

That's all there is to measuring an amplifier's relay voltage and current.

You should read the transceiver's operator's manual section that discusses connecting the transceiver to an amplifier. This is especially important if you are connecting a solid state transceiver that has an "open collector" amplifier switching circuit such as in the Yaesu FT-857D and the FT-757GX, I have both transceiver and neither transceiver can safely switch the Heathkit SB-200/201 and SB-220/221 amplifiers!!! Most of these transceiver have "open collector" amplifier switching circuits that have a low DC voltage and current levels. The Yaesu FT-857D, for example, has an "open collector" amplifier switching circuit that has a maximum "positive" DC voltage of +50VDC with a

maximum switching current level of 400ma. Failure of the operator to read this warning can permanently damage those transceiver. Believe me, there have been those hams who thought it was not important to read the manual. Instead, they connected the circuits together and "poof", instant damage, all because they were too darn lazy and didn't think it was important to read the manual!!!!!

Most, if not all open collector switching circuits do NOT allow for any AC or "negative" DC switching voltages. I constantly emphasize to members the importance to spend time reading and studying the manuals for their ham gear. Quite often problems experienced could have been avoided if the member/operator would only pick up the manual and read it!!!

While the TS-520 and TS-820 have relay terminals that can handle the Heathkit SB-200/220 (SB-201/221 for amps that do not have 10 meters), it's best to use a relay interface between the amplifier's RELAY and the TS-520/820 rear panel relay terminals. Each time the relay energizes a spark occurs which result in carbon on the relay terminals. Over time the carbon build up can cause problems later on.

Now, having said all that and as I said before, you DO NOT need an amplifier interface when you use any of the Ameritron amplifiers, the AL-811 and AL-811H amplifier relay voltage and current levels are very low and easily handled by the KW hybrid transceivers, including the T599 and TS-510/511 earlier transmitters/transceivers. But there again, I can't emphasize the importance of spending some time with the Cell phone/ipod turned OFF and reading/studying the ham gear's operator's manual!!!

73
Mike W5RKL
www.w5rkl.com

On 11/19/2014 9:43 AM, Karl Schwab ktschwab@...
[TS-520_820_530_830] wrote:
> Thanks Mike; I like your detailed info on the a keyer interface being
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> [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:
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>
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>
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> 2. RELAY connection. Strip the covering off the cut end of the cable.
> Connect the Center wire to pin 5 and the shield to pin 1 or 4.
>
> Plug the RELAY Cable RCA plug into the amplifier's rear panel RELAY
> socket.
> Plug the ALC Cable RCA plug into the amplifier's rear panel ALC socket
>
> That's ALL you have to do!!!!
>
> READ the AL-811H amplifier's manual and perform the amplifier's ALC
> adjustment as outlined in the amplifier's manual!!!
>
> The AL-811H relay voltage is 12VDC at approximately 100ma when the
> relay is energized. The amplifier relay terminal (N.O. "Normally Open"
> terminals pin 5) in the TS-820 can easily handle that DC voltage.
>
>
> 73
> Mike W5RKL
> W5RKL <http://www.w5rkl.com/>
>
>
>
> W5RKL <http://www.w5rkl.com/>
> Welcome to my Amateur Radio website. 73 Mike W5RKL email: w5rkl@...
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50182. Re: *** SPAM ***Re: [TS-520_820_530_830] Re: TS-820 and Ameritron ARB-704

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-19 17:15:20 UTC
From: Mike W5RKL
Topic: 50178 Message: 50182

One more thing. You may hear hams say or tell you that you do not need the ALC connection between the amplifier and transceiver. That's a load of crap!!! You should always connect the amplifier ALC and transceiver ALC connection together. Simply follow the amplifier's ALC adjustment and you can't go wrong!!!

73
Mike W5RKL
www.w5rkl.com

On 11/19/2014 11:12 AM, Mike W5RKL wrote:
> Actual Karl, the SB-200/220 and the SB-201 and SB-221 Heathkit
> amplifiers have a much higher relay voltage, approximately 110VDC.
>
> If you have any doubt as to what an amplifier's relay voltage and
> current is, you can use a DVM/DMM to measure the amplifier's relay
> voltage and the amplifier's relay current. Most DVM/DMMs have a
> voltage overload protection circuit, read the DVM/DMMs manual for details.
>
> To measure the amplifier's relay voltage:
>
> 1. Set the DVM/DMM to measure DC voltage, set to 200VDC to start.
> 2. Connect the DVM/DMM's "RED" probe lead to the amplifier's relay
> socket's center terminal and the DVM/DMM's "BLACK" lead to the
> amplifier's chassis.
> 3. Switch the amplifier ON and set the STBY/OPR switch to OPR and read
> the amplifier's relay voltage on the DVM/DMM. IF necessary change the
> DVM/DMM's DC voltage level setting to a lower DC level until you see
> the approximately relay DC voltage.
>
> To measure the relay's current level:
>
> 1. Change the DVM/DMM to measure "current", typically requires moving
> the DVM/DMM"s "RED" probe to the DVM/DMM's "20A" or "mA" socket.
> 2. Connect the DVM/DMM RED probe to the amplifier's RELAY socket's
> center terminal and the DVM/DMM's BLACK lead to the amplifier's chassis.
> 3. Connect the amplifier to a 50 ohm dummy load, do NOT apply any RF
> drive.
> 4. Set the amplifier's STBY/OPR switch to STBY
> 5. Power up the amplifier, the amplifier's relay should NOT energize.
> 6. Switch the STBY/OPR switch to OPR, the amplifier's relay should
> energize. Read the amplifier's relay current on the DVM/DMM.
> 7. Set the amplifier's STBY/OPR switch to STBY, amp's relay should
> de-energize. Power down the amplifier.

>
> That's all there is to measuring an amplifier's relay voltage and
> current.
>
> You should read the transceiver's operator's manual section that
> discusses connecting the transceiver to an amplifier. This is
> especially important if you are connecting a solid state transceiver
> that has an "open collector" amplifier switching circuit such as in
> the Yaesu FT-857D and the FT-757GX, I have both transceiver and
> neither transceiver can safely switch the Heathkit SB-200/201 and
> SB-220/221 amplifiers!!! Most of these transceiver have "open
> collector" amplifier switching circuits that have a low DC voltage and
> current levels. The Yaesu FT-857D, for example, has an "open
> collector" amplifier switching circuit that has a maximum "positive"
> DC voltage of +50VDC with a maximum switching current level of 400ma.
> Failure of the operator to read this warning can permanently damage
> those transceiver. Believe me, there have been those hams who thought
> it was not important to read the manual. Instead, they connected the
> circuits together and "poof", instant damage, all because they were
> too darn lazy and didn't think it was important to read the manual!!!!!
>
> Most, if not all open collector switching circuits do NOT allow for
> any AC or "negative" DC switching voltages. I constantly emphasize to
> members the importance to spend time reading and studying the manuals
> for their ham gear. Quite often problems experienced could have been
> avoided if the member/operator would only pick up the manual and read
> it!!!
>
> While the TS-520 and TS-820 have relay terminals that can handle the
> Heathkit SB-200/220 (SB-201/221 for amps that do not have 10 meters),
> it's best to use a relay interface between the amplifier's RELAY and
> the TS-520/820 rear panel relay terminals. Each time the relay
> energizes a spark occurs which result in carbon on the relay
> terminals. Over time the carbon build up can cause problems later on.
>
> Now, having said all that and as I said before, you DO NOT need an
> amplifier interface when you use any of the Ameritron amplifiers, the
> AL-811 and AL-811H amplifier relay voltage and current levels are very
> low and easily handled by the KW hybrid transceivers, including the
> T599 and TS-510/511 earlier transmitters/transceivers. But there
> again, I can't emphasize the importance of spending some time with the
> Cell phone/ipod turned OFF and reading/studying the ham gear's
> operator's manual!!!
>
> 73
> Mike W5RKL
> www.w5rkl.com
>
> On 11/19/2014 9:43 AM, Karl Schwab ktschwab@...
> [TS-520_820_530_830] wrote:

>> Thanks Mike; I like your detailed info on the a keyer interface being
>> needed on the '820. I suspect that the same applies on the '520
>> using the old Heathkit SB-200/220 amplifiers.
>> Keep writing these great tips, 73, de Karl, KO8S
>>
>>
>> On Wednesday, November 19, 2014 9:45 AM, "w5rkl@...
>> [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:
>>
>>
>>
>>
>> Frank,
>>
>> What "interface" are you referring to?
>>
>> Have you been told you need an amplifier interface to connect your
>> TS-820 to your AL-811H amplifier? If so, don't believe any of that
>> non-sense!! You do NOT need an amplifier interface to connect your
>> TS-820 to your AL-811H amplifier!!
>>
>> All you need is an 8 pin octal plug which can be found on eBay or
>> other sources. The cable can be simple shield cable found in DVD/VCR
>> player/recorder boxes. Simply cut one end off leaving the RCA plug on
>> the other end. Connect the cut end as follows, one cable for the
>> amplifier's RELAY and one for the amplifier's ALC connection.
>>
>> 1. ALC connection. Strip the covering off the cut end of the cable.
>> Connect the center wire to pin 6 and the shield (ground) to pin 1 or
>> 4 on the 820's 8 pin plug.
>> 2. RELAY connection. Strip the covering off the cut end of the cable.
>> Connect the Center wire to pin 5 and the shield to pin 1 or 4.
>>
>> Plug the RELAY Cable RCA plug into the amplifier's rear panel RELAY
>> socket.
>> Plug the ALC Cable RCA plug into the amplifier's rear panel ALC socket
>>
>> That's ALL you have to do!!!!
>>
>> READ the AL-811H amplifier's manual and perform the amplifier's ALC
>> adjustment as outlined in the amplifier's manual!!!
>>
>> The AL-811H relay voltage is 12VDC at approximately 100ma when the
>> relay is energized. The amplifier relay terminal (N.O. "Normally
>> Open" terminals pin 5) in the TS-820 can easily handle that DC voltage.
>>
>>
>> 73
>> Mike W5RKL
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>> W5RKL <http://www.w5rkl.com/>
>> Welcome to my Amateur Radio website. 73 Mike W5RKL email:
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50183. Re: [TS-520_820_530_830] Re: TS-820 and Ameritron ARB-704

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-19 16:42:45 UTC
From: Frank Reckenberg
Topic: 50178 Message: 50183

Thanks Mike, wasn't sure until your advice. I was reviewing page 15 in the manual a few minutes ago; good timing on your part answering my question. I love my TS-2000 but really love my TS-820 rig! Old school I guess...

Frank
KM4FVI

50184. Re: [TS-520_820_530_830] Re: TS-820 and Ameritron ARB-704

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-19 17:40:06 UTC
From: Donald Allen
Topic: 50178 Message: 50184

Mike,

There are some amps out there today that do not ever offer ALC connections, including the ACOM line - at least with their tube amps. Although I use ALC with either my 520S or 830S with the Heathkit SB-200 and Ameritron AL-80B respectively, I don't use, or better yet, _can't use_ an ALC connection between my 990S and the ACOM 1010 amp. The ACOM amp is driven to full output with only 30 to 40W of drive from the 990. The 990 doesn't have any ALC overshoot regardless of power setting, as I've checked it with my Tektronix scope.

73
Don W9CW

On 11/19/2014 11:15 AM, Mike W5RKL w5rkl@... [TS-520_820_530_830] wrote:
>
> One more thing. You may hear hams say or tell you that you do not need
> the ALC connection between the amplifier and transceiver. That's a
> load of crap!!! You should always connect the amplifier ALC and
> transceiver ALC connection together. Simply follow the amplifier's ALC
> adjustment and you can't go wrong!!!
>
> 73
> Mike W5RKL
> www.w5rkl.com
>

50185. Re: [TS-520_820_530_830] Re: TS-820 and Ameritron ARB-704

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-19 17:43:58 UTC
From: w5rkl@...
Topic: 50178 Message: 50185

My response was for amplifiers that do have the ALC connection. Naturally if an amplifier does not have an ALC connection then connecting the transmitter/transceiver's ALC to the amplifier is not required.

73
Mike W5RKL
W5RKL http://www.w5rkl.com

W5RKL http://www.w5rkl.com Welcome to my Amateur Radio website. 73 Mike W5RKL email: w5rkl@yahoo.com

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Preview by Yahoo

50186. RE: [TS-520_820_530_830] TS-820S display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-19 19:32:31 UTC
From: bixbys@...
Topic: 50165 Message: 50186

Where before it was not functioning at all (all digits "scrambled") on 15 and 10 meters, it now works 95% of the time on both bands. Once in awhile it's unhappy & reverts to it's scrambled version, but then corrects itself after a minute or so. So cleaning helped quite a bit, but not 100% yet.

Jeff
W4BIX

50187. Re: [TS-520_820_530_830] TS-820S display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-19 20:24:54 UTC
From: Joseph Stiles
Topic: 50165 Message: 50187

Jeff,
Your problem is almost the same as to what I was having with my 820S DG-1 display. Cleaning the pins..etc...solved that problem for about 1 week or so..then it was back to being wacky. It seems that when it got warmed up..one or more through-holes would become unconnected with the other side. I pulled the DG-1 unit again the did the 'through-hole re-work." This involves having a bunch of short pieces of good wire..usually clipped off resistors..or other parts..and heating up the through-holes and inserting the small piece of wire. There are 18 such holes. Kenwood put out a service bulletin regarding the repair.It's a pain in the rear...and take about 45-60 minutes for the round trip.
73 Joe
WB7UQU

On Wednesday, November 19, 2014 11:32 AM, "bixbys@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Where before it was not functioning at all (all digits "scrambled") on 15 and 10 meters, it now works 95% of the time on both bands. Once in awhile it's unhappy & reverts to it's scrambled version, but then corrects itself after a minute or so. So cleaning helped quite a bit, but not 100% yet.
JeffW4BIX

50188. RE: [TS-520_820_530_830] TS-820S display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-20 04:52:55 UTC
From: David Boothe
Topic: 50165 Message: 50188

Jeff,
Thanks. Mine behaves much the same way. Sometimes it will drift in and out of “scrambled mode” on 15M and 10M. I’ve done a lot of work on it to get it functioning at all and will post if I find a way to get it 100% all the time.
Dave
KC3CIP

this msg edited as it contained already posted material. 73 Joe wb7uqu

50189. RE: [TS-520_820_530_830] TS-820S display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-20 14:20:31 UTC
From: wagstw46@...
Topic: 50165 Message: 50189

I had to smile at Jeffs 1st report and chose not to rain on his parade. Never want to discourage new person who thinks they have found the cure. That is kind of person who is likely to succeed.

Have you verified that TC-1 has been properly set to provide close to 50mv of carrier to the CCR terminal on the Counter Mixer board? You can quickly check it at TP-6 on the IF board. I also like to check it at the molex connector at Counter Mixer Board (bottom side of rig).

The Service Manual Step 3.2 says to set the CCR level (Counter Carrier) to 0.1v (100mv) and that in my experience is way to high especially on the higher bands.

Lastly I have found that after doing the Vias on the Display board and reflowing some other connections on the Counter Mixer board and you still have this intermittent problem that you take a hard look at the two sets of "Intra-Board" molex connectors. If you look you will see that contact pressure is only applied on one side of the flat faced post. I would apply Deoxit D5 with artist brush to both sets of posts and then reseat the boards and sometimes this helps and other times not.

I run the unit removed from the radio with the covers off (I have a spare VFD display tube) and I gently touch each post with sharp end of soldering aid and if a digit blinks, goes out, or fades in intensity then likely that the contact being touched is not good. I touch each of the 17 "intra-board" pins in this way while watching the display.

I remove the two boards and I lightly sand all the Intra-board molex pins on the flat faces where the contact is being made. I then place a drop of full strength Deoxit DL-100 on each post and re-seat the boards. I have had very good success with this approach. If for example you have intermittent on 7mhz then likely problem is on T4 post.

Part of the problem that fools you is you can wiggle the molex connector on bottom side of chassis and cause display to come and go, you can pull/push on an individual lead wire entering that connector body, you can press/pull the circuit board, you can apply pressure to the shield can and all of these things can cause erratic display. Often you think you have narrowed it down to a connection and you really have not as the motion you apply at that spot is really just being transmitted remotely to the real problem area.

I charge an additional $40 for DG-1 repair and often it requires 3 or 4 pulls. Other big issue with the TS-820 is build quality and bad crimps on lead wires. I often find a board that has a long molex connector mounted and the connector body was not completely seated before soldering making pins at one end not fully protruding thru the board for soldering.

Lastly very common for an intermittent to be caused by a bad crimp on lead wire terminal or the spring metal end of that terminal is broken off and still laying down inside the connector body, but of course applying no contact pressure to its mating pin. This is a real fooler as you will read voltage when you apply a pin into the hole and touch the crimp terminal but there is no voltage going to the mating terminal post and associated PC trace.

These issues are why so many KW techs (and I mean some good ones) no longer service the TS820. I am re-evaluating my practice as I have been over run with T820s lately (5 here now and 2 on the way) and far too many hours troubleshooting intermittents. I am either going to have to raise price or do like others and no longer service. I no longer offer any warranty on a "fixed" DG-1.
I anxiously await the Arduino replacement and will gladly buy and direct my customers to make the exchange.

Each Hybrid model comes with its own set of unique design and as built issues that are now manifesting themselves more and more at the end of economic operational life. A TS-820 is a really nice radio (quiet single conversion scheme) when it is working and a real pain when it is not. Of course exacerbated by the very poor documentation.

Have fun

Terry K9TW

50190. RE: [TS-520_820_530_830] TS-820S display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-20 15:24:10 UTC
From: David Boothe
Topic: 50165 Message: 50190

Good stuff, Terry. You and I have corresponded on my adventures with the DG-1 and I have appreciated your guidance very much.

Jeff, when I started seeing the issues on 21 and 28 mHz bands (really couldn't get a sensible reading at all), I did the following:

"For the high band display problem, I decided to check and set the Counter input level like it says on page 49 of the Alignment Manual (adjust TC1 on the IF board for 0.1 V at TP-6, then adjust T1 and T2 on the Counter Mix board to maximize the voltage at TP2). I adjusted this as close to 0.2 as I could (0.196V)."
Terry mentioned the first step in his note. I found the second step got the 21 and 28 mHz display back nearly all of the time. I also found that the 5V supply to the DG-1 was only running 4.7 V instead of 5.1 at the supply. After reviewing the circuit diagram carefully, I could see that the only thing between the two units was a wire (with Molex connectors!). Some cleaning got the voltage up to 4.9V at the internal DG-1 5V contact.
I have also resoldered all the vias, but I did not wire them. Cleaned all the contacts on the top and bottom Molex connectors and the 'intra-board' connectors, but all this has still not put me 'over the top' with complete 100% operation.
This unit had been a real pain and I've spent hours on it, but will likely do some of the other things Terry mentions around the connectors next time I have the lid off, especially the 'pin-by-pin' test. Hang in there! It's a great radio, but this is the one consistent issue with many of them.
One for Terry: what do you mean by the 0.1 counter carrier voltage being 'way too high?' What is the impact of having this on the high side? That's where I set it. Could this contribute to the issue? Thanks!
Dave
KC3CIP

Moderator's note:
Portion of message have been removed.
73
Mike W5RKL
Group Moderator
www.w5rkl.com http://www.w5rkl.com

50191. Disarming a TS-520 DC Power Pack

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-20 17:05:06 UTC
From: roberteleazer@...
Topic: 50191 Message: 50191

In my investigations with the TS-520 I am working on, I have realized that if I was going to just power up the LV DC circuits I had better first deactivate the DC converter lest I get some HV DC showing up when I least expect it.

Anyone know how the simplest way to do that? I figured I will disconnect one of the leads from the large DC power pack terminal block.

Thanks,

Robert
WB5WSV

50192. Re: [TS-520_820_530_830] Disarming a TS-520 DC Power Pack

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-20 17:26:09 UTC
From: Mike W5RKL
Topic: 50191 Message: 50192

Robert,

I don't quite understand what you are asking.

There are various lower DC voltages in the 520 such as the -6VDC +9VDC, +12VDC, +14VDC, -C (-101VDC), +210A, and the +300A.

Then there's the +920VDC for the plates of the 6146.

What Low Voltage (LV) and High Voltage (HV) are you referring to that you want and don't want?

73
Mike W5RKL
www.w5rkl.com

On 11/20/2014 11:05 AM, roberteleazer@...
[TS-520_820_530_830] wrote:
>
> In my investigations with the TS-520 I am working on, I have realized
> that if I was going to just power up the LV DC circuits I had better
> first deactivate the DC converter lest I get some HV DC showing up
> when I least expect it.
>
> Anyone know how the simplest way to do that? I figured I will
> disconnect one of the leads from the large DC power pack terminal block.
>
> Thanks,
>
> Robert
> WB5WSV
>
>
>

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50193. Re: [TS-520_820_530_830] Disarming a TS-520 DC Power Pack

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-20 21:10:18 UTC
From: roberteleazer@...
Topic: 50191 Message: 50193

Mike:

I am in the process of rebuilding the power supply section of a TS-520 that suffered a failure there. I have replaced the main power supply board (which was smoking on power up) with one that w s rebuilt and I'm in the process of recapping. The transformer looks pretty good in terms of the voltages it produces (not connected to the rest of the set yet) and the appearance and smell of it. I have yet to find a definitely bad cap among the ones I have removed, in terms of being clearly shorted, although some have a rather rapid decay time when charged up and then measured over time.

Before I am done with the power supply effort I would like to apply 14VDC in the manner that the original power supply did but using an external bench-type power supply and see how well the solid state portions of the set work. If too much is shot in that area then it's time to give up and use the set for parts. But if I just apply the 14VDC that will fire up the DC converter and bring the HV up as well, and obviously I don't want to do that yet.

I looked at the set and the power supply portion of the schematic this morning and have not yet figured out which wire to disconnect to prevent the DC converter from cranking up. I was hampered when the test lead on my VOM broke and I had to fix that first. I plan to just apply 14 VDC through the appropriate pins on power plug, since that is the first junction point for the 14 VDC output of the power supply board anyway.

By the way, are you still collecting power supply boards? I should be able to send you the old board from this one once I am sure I will not need it.

Thanks!

Robert
WB5WSV

50194. Re: [TS-520_820_530_830] Disarming a TS-520 DC Power Pack

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-20 22:16:19 UTC
From: Mike W5RKL
Topic: 50191 Message: 50194

Robert,

The Rectifier Unit's "+14VDC" supply output is at the Rectifier Unit's "14" and "GND" terminals. The Rectifier Unit's +14VDC output is connected to pin 8 in the main power plug then through an internal jumper in the plug, connects to pin 9. Just follow the 520 wiring diagram and you'll see how the wiring is connected.

Now if you want to power the 520 with the +14VDC supply, all you have to do is disconnect the AC800, 300, 210, 100, and GND power transformer wires to the Rectifier Unit. Also disconnect power transformer "0" terminal which is part of the 300, 210,and 100 secondary windings, that connects to the junction of HV capacitors C31 and C32 (tape this wire so it doesn't short to the chassis). This leaves the 14VDC supply in tack and you can power the 520 14VDC circuits with main power. I don't know why you want to do this but that is how the 520 can be powered with Rectifier Unit's +14VDC ONLY. This will also give you meter and VFO dial lamps, driver and both final tube filaments lit if the Heater switch is set to ON.

If you have rebuilt the Rectifier Unit with new components then you should be checking the dual capacitor cans, C27A/B and C28A/B as well as the HV filter capacitors to ensure they are not shorted to ground.

Also, if you are checking capacitors with an ohm meter, the low voltage from the Ohm meter may not be enough to show the shorted electrolytic capacitor. If the capacitor discharges rather quickly when disconnected from any circuit then I would not waste time messing with it but rather replace it.

I'm not collecting boards but if the board needs fixing then I'll do what I can to rebuild the board providing the foil runs are not destroyed. My address is good on qth.com call sign look up.

73
Mike W5RKL
www.w5rkl.com

On 11/20/2014 3:10 PM, roberteleazer@... [TS-520_820_530_830]
wrote:
>
> Mike:
>
> I am in the process of rebuilding the power supply section of a TS-520
> that suffered a failure there. I have replaced the main power supply
> board (which was smoking on power up) with one that w s rebuilt and
> I'm in the process of recapping. The transformer looks pretty good in

> terms of the voltages it produces (not connected to the rest of the
> set yet) and the appearance and smell of it. I have yet to find a
> definitely bad cap among the ones I have removed, in terms of being
> clearly shorted, although some have a rather rapid decay time when
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> Before I am done with the power supply effort I would like to apply
> 14VDC in the manner that the original power supply did but using an
> external bench-type power supply and see how well the solid state
> portions of the set work. If too much is shot in that area then it's
> time to give up and use the set for parts. But if I just apply the
> 14VDC that will fire up the DC converter and bring the HV up as well,
> and obviously I don't want to do that yet.
>
> I looked at the set and the power supply portion of the schematic this
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> prevent the DC converter from cranking up. I was hampered when the
> test lead on my VOM broke and I had to fix that first. I plan to
> just apply 14 VDC through the appropriate pins on power plug, since
> that is the first junction point for the 14 VDC output of the power
> supply board anyway.
>
> By the way, are you still collecting power supply boards? I should be
> able to send you the old board from this one once I am sure I will not
> need it.
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> Thanks!
>
> Robert
> WB5WSV
>
>

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50195. Re: [TS-520_820_530_830] Disarming a TS-520 DC Power Pack

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-21 12:16:15 UTC
From: wagstw46@...
Topic: 50191 Message: 50195

Fellows what am I missing here??

If you just want to see if the Receiver works before investing any time and money in restoring the rest of the supply voltages why wouldnt you simply apply your 14vdc bench supply to the 14 terminal post and GRD terminals on the HV rectifier board or chassis ground? As I recall it will be a Blue wire on wire wrap post.

There is no need to lift anything. Your bench supply wont back feed thru the bridge rectifier or any place else.

You will simply be powering the 14vdc CLC filter and the AVR board and receiver will come alive. Of course you need the power cord plugged in but rig doesnt have to be turned on and certainly wont be powering the DC to DC converter and supplying any AC to the transformer primary windings.

OR

you could simply apply the 14vdc bench supply to the AVR board 14 wire wrap post (Orange wire) as you dont need the CLC filtering. If you do that dont need the Cinch Jones line cord plugged in at all.

Maybe I dont understand what you want to do?

By the way will need approx 3amp DC supply.

Terry K9TW

50196. RE: [TS-520_820_530_830] TS-820S display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-21 12:26:00 UTC
From: rrmvargo@...
Topic: 50165 Message: 50196

Terry,
Great explanation on the 820 display repair. This would be a great document for the files section since it is not easy searching conversations. I am fighting intermittent 830S display issues on my newest unit which has it's own issues. - Bob W8RMV

50197. Re: [TS-520_820_530_830] Disarming a TS-520 DC Power Pack

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-21 12:36:22 UTC
From: Mike W5RKL
Topic: 50191 Message: 50197

Hi Terry,

It appears that Bob wanted to power the 520 low voltage stages from +14VDC. It appears he was rebuilding the Rectifier Unit and wires between the power transformer and Rectifier Unit had been disconnected. I simply stated what wires could be disconnected between the power transformer and the Rectifier Unit preventing the 210/300 and HV from being present and how he could power the 520 low voltage stages using the 520's Rectifier Unit's +14VDC supply. If I misunderstood what Bob wanted or had done then I stand corrected.

73
Mike W5RKL
www.w5rkl.com

On 11/21/2014 6:16 AM, wagstw46@... [TS-520_820_530_830] wrote:
>
> Fellows what am I missing here??
>
>
> If you just want to see if the Receiver works before investing any
> time and money in restoring the rest of the supply voltages why
> wouldnt you simply apply your 14vdc bench supply to the 14 terminal
> post and GRD terminals on the HV rectifier board or chassis ground? As
> I recall it will be a Blue wire on wire wrap post.
>
> There is no need to lift anything. Your bench supply wont back feed
> thru the bridge rectifier or any place else.
>
> You will simply be powering the 14vdc CLC filter and the AVR board and
> receiver will come alive. Of course you need the power cord plugged in
> but rig doesnt have to be turned on and certainly wont be powering the
> DC to DC converter and supplying any AC to the transformer primary
> windings.
>
>
> OR
>
> you could simply apply the 14vdc bench supply to the AVR board 14 wire
> wrap post (Orange wire) as you dont need the CLC filtering. If you do
> that dont need the Cinch Jones line cord plugged in at all.
>
> Maybe I dont understand what you want to do?
>
> By the way will need approx 3amp DC supply.
>

> Terry K9TW
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

50198. RE: [TS-520_820_530_830] TS-820S display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-21 15:23:55 UTC
From: wagstw46@...
Topic: 50165 Message: 50198

David:

I use to set TC-1 for 100mv CCR level and with experience I have learned not a good level for stable display especially on 10 meters. You may even find this in print in some of the KW mods and "Service Bulletins".

I now firmly believe that setting CCR level to 0.10 volts (100mv rms) with TC-1 as called out in the Service Manual is wrong. It is too high a level as it overdrives the LO input to IC1 and Carrier Suppression goes to pot. 50mv is sufficient signal level to produce required LO input level at IC1. (suggest you pull up the data sheet and app notes for IC1 and look at the specs for the LO signal level).

The reason it is wrong is that it is on the border line of exceeding 200mv output at TP-2 assuming that you have adjusted the top coupled 7.830mhz LC Resonator Band Pass Filter properly. Important to adjust T1 and T2 for maximum RF voltage at TP-2 and not to set the level at TP-2 with them. Must set both LC networks to resonance ie peak rf voltage. At the Drain of Q2 Mixer you will have 1mhz, 8.830mhz, 9.830mhz and the difference frequency of 7.830mhz. This resonator circuit is designed to discriminate against all but the 7.830mhz signal. 7.830mhz is the Fc for this bandpass filter.

If you set TC-1 on the IF board to a level that exceeds 200mv at TP-2 you will be overdriving the SN76514N Mixer. The 7.830mhz signal at TP-2 is the LO (local oscillator) for this chip. If you look at the Data Sheets and App notes for this balanced mixer chip you will see that the LO signal level max spec is from 250 to 300mv P-P at Pin 5. 300mv P-P is 212 mv rms. The display may start to be unstable slightly below 200mv.

I find a good 7.830mhz level at TP-2 is approx 100 to 120mv or about half of 200mv. You obtain that by setting TC-1 for 50mv CCR signal level at the DG-1 and by peaking the RF voltage by adjusting T1 and T2.

You say you cannot get more than 196mv at TP-2 and that is strange as it should be very easy to obtain a level greater than 200mv assuming that you have approx 300mv of Carrier to the IF board at TP-5. After adjusting T1 and T2 to resonance (7.830) go ahead and adjust TC-1 on the IF board as you monitor TP-2 and you should very easily be able to attain as much as 290mv to 300mv. If you cannot then something is wrong and I would start by looking at CA2 level.

First set TC-1 for 50mv rms level at CCR molex pin on DG-1 and then adjust T1 and T2 for maximum level at TP-2. It should be around 115mv or so. It will depend in what test gear you are using. I use a Boonton 92E with no jumper leads at the probe tip or a DS1102 scope with 10X probe and no jumper leads from scope probe hook to the TPs. Scope tends to read a little higher than the Boonton.

I would do my measuring and adjusting at 28.5 bandswitch position and VFO at 250.

Terry K9TW

50199. RE: [TS-520_820_530_830] TS-820S display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-21 15:41:21 UTC
From: David Boothe
Topic: 50165 Message: 50199

Thanks, Terry. I'll give this a try and check CA2 as well. Interesting that they would specify a setting that over-drives the mixer! I have a 100 mHz scope on the Christmas list, but I already bought a low-voltage RF probe to use with my DMM.
73
Dave

50200. Re: [TS-520_820_530_830] Disarming a TS-520 DC Power Pack

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-21 16:36:31 UTC
From: wagstw46@...
Topic: 50191 Message: 50200

I am not correcting anyone. Just offering very simple solution if all he want to do is validate whether the receiver is working and doesnt want to apply 120vac to primary of the xfmr.

I am trying to understand his concern about powering up the transformer primary via the DC to DC converter and thus the xfmr hv secondary.

As you know the most common way he can get HV supplies energized via 14vdc is to install the optional Cinch Jones with the mobile operation jumpers in it and no reason to do that if all you want to do is just test the receiver. In 10 seconds can apply 14vdc to the HV rect board or as I mentioned go the AVR board. No Cinch Jones of any kind need be connected. Apparently this is not what he is trying to do.

If he wants to see if he can power receiver from the Cinch Jones with the mobile jumpers installed then yes he would have to defeat the DC to DC converter or lift primary or secondaries off the xfmr.

Terry K9TW

50201. RE: [TS-520_820_530_830] TS-820S display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-21 16:50:21 UTC
From: wagstw46@...
Topic: 50165 Message: 50201

Maybe someday I will write something up on how the Counter Mixer Board works and provide Scope waveforms at all the TPs. I have them stored. When I get time I will transfer from my scope and put them on a flash drive and send to Joe.

I havent done that because about 90% of the time the issue is bad solder connections on the Display board or high resistance contact at molex pins. For the other 10% where the issue is a signal level or dc voltage or a component failure most folks dont have test gear to be able to troubleshoot it.

I have all this info but just very busy and shouldnt even be messing around here. I take a look in early am and from time to time during day. Old habits die hard.

As to the 830 Display I havent found the same poor soldering malaise as the 820, but others on here report that they have so better to just post and describe your symptoms and let those folks respond as to how they fixed it.

Terry K9TW

50202. RE: [TS-520_820_530_830] TS-820S display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-21 18:12:37 UTC
From: wagstw46@...
Topic: 50165 Message: 50202

Dave

There are numerous errors in the TS-820S Service Manual. Very well known and discussed on this forum at length. Starts with the Carrier Oscillators being set to 50mv level vs 300mv level and is throughout the documentation (300mv is correct and not 50 or 500). Very common to find wrong signal level, wrong test point, and wrong adjustment devices called out. Have to look at each step very carefully to see if it makes sense before you proceed. Dont do any balanced mod or product detector carrier null by adjusting the called out trimmer pot or trimmer cap until you study the schematic or come here and ask if still not sure.

Terry K9TW

50203. Re: [TS-520_820_530_830] Disarming a TS-520 DC Power Pack

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-21 18:27:37 UTC
From: roberteleazer@...
Topic: 50191 Message: 50203

Teryy:

Thank you and Mike for your inputs. I do not want to apply power to the HV rectifier board because it is not all hooked up yet - at least not in away I trust. Applying DC at the AVR board is indeed a useful idea.

Tracing the circuits on the schematic and by use of a VOM on the set was laborious and somewhat productive. But the TS-520 Operator's manual provides what I need.

The table at the top of Page 16 shows how to wire the AC and DC power input plugs. Pin 9 of the connector is listed as "13.8 VDC to operate the solid state circuits."

Pin 9 normally would be jumpered together on the DC power input Plug with pins 2, 4, 7, 11, 12. Pins 11 and 12 are for the DC Power Module input power and so I won't need those. Pin 4 provides for control of the DC Power Module so I won't need that. Pin 7 is for the tube filaments and I won't need that either. Pin 2 is to run the power through the main power switch, so i will not need that.

So, it appears that, assuming the power input plug I use does not have those all pins jumpered together, I can apply power just to pin 9 and that should do it. That connection alone, along with a ground connection to my bench power supply, of course, should be adequate.

I can easily wire up a dedicated power input plug for the test purposes. I have something like 21 of those plugs in my parts stocks and not installed on power cords so I can well afford to use one to make receiver test plug.

Thanks again!

Robert
WB5WSV

50204. Re: [TS-520_820_530_830] Disarming a TS-520 DC Power Pack

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-21 22:34:59 UTC
From: wagstw46@...
Topic: 50191 Message: 50204

Robert:

Dont you have the covers off the radio? Even just the top cover.

In matter of seconds you connect a mini grabber or alligator lead to the 14 vdc wire wrap terminal post on the AVR board and the receiver will come alive.

Applying 14vdc to the 14vdc wire wrap post on the HV rectifier board is not "powering" the board or back feeding the transformer in anyway. Unless of course you had a bad carbon track at the 14vdc bridge rectifiers or the terminal post which could place a short on your bench supply.

When you connect 14vdc to the 14vdc AVR post you will have 14 vdc back feed thru the C-L-C Pi filter back to the HV rectifier board. If worried about that simply lift the blue wire off its post on the HV rect board.

I dont understand the need to power thru the Cinch Jones plug on rear of rig?

Terry K9TW

50205. Re: [TS-520_820_530_830] Disarming a TS-520 DC Power Pack

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-21 23:46:02 UTC
From: roberteleazer@...
Topic: 50191 Message: 50205

Terry:

This is a set I bought on ebay that had a serious power supply problem. There is considerable smoke residue inside the covers. The former owner had cut all of the output wires coming from the rectifier board and stuck in patch wires (apparently using that color coded single conductor wire salvaged from those big telephone cables). I assume it was so he could isolate the different power supply outputs and thereby track down what was causing the apparent short.

Powering up the set produced copious smoke from the HV rectifier board. Since I had a repaired spare board handy I just replaced the smoking one and started the recapping. I am still working on the recapping - I built my own multisection electrolytic caps using pill bottles to replace those hidden under the marker board, and one of them has too fast a decay rate to suit me; it'll be a do over (apparently hot melt glue gun glue is not a particularly good HV insulator). I am assuming right now that the original short was the result of a bad cap, but I do not really know. At least two of the old ones had bad decay rates after I charged them up but none literally are smoking guns

Anyway, the HV rectifier board is not yet hooked up correctly all the way. There are bare connections all over the place, and I am still tracing wires to see how badly (or goodly) wired things are, given that I did not do the wiring in the first place. I found early on before the recapping began that someone thought it a good idea to hook up the HV AC directly to the big filter caps without the rectifier board in the middle, so I trust nothing about the set that I have not done myself!

Powering the solid state stuff off the power connector using my 0-20 VDC 50 amp bench power supply, which is easy to do, will enable me to see how much current the solid state stuff is drawing - not only the receiver but I hope those solid state parts that activate when you hit the transmit button as well. And I'll be able to see if the receiver is working at all - without involving that highly suspect wiring in any way.

I will check the AVR board for voltage after I get the LV B+ hooked up. Thanks for that idea!

Wish me luck.

Robert
WB5WSV

50206. Hybrid Parts

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-22 02:13:50 UTC
From: ke5ftf@...
Topic: 37826 Message: 50206

Just wanted to let everyone know that I am still selling Kenwood hybrid parts...
Will be reducing my prices through the winter...
Thanks.
Bob
KE5FTF
73s

50207. Re: [TS-520_820_530_830] Ts520 update

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-22 01:54:26 UTC
From: weslugo@...
Topic: 50151 Message: 50207

Hi Mike So if the fuse holds are you saying the tubes failed?
Thanks Mark
KG5ERC

50208. Re: Hybrid Parts

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-22 06:36:08 UTC
From: beeson.neil@...
Topic: 37826 Message: 50208

Bob If you've got ANY leads for the TV-502 and TV-506 I would be very happy.
I found the plug part number, P-1312-CTA, but HIROSE discontinued making them in 2012.
73
Neil
VK6NSB

50209. 830S Display (from 820 discussion)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-22 14:09:26 UTC
From: rrmvargo@...
Topic: 50209 Message: 50209

As to the 830 Display I havent found the same poor soldering malaise as the 820, but others on here report that they have so better to just post and describe your symptoms and let those folks respond as to how they fixed it.

Terry K9TW

Both 830S's I have had/have display issues. The first one (a 2M SN) I learned from had at least 2 poor solder connections. The first one I found was that hang on electrolytic on the bottom of the board C28 that brought the display to life. Then the loss of the counter signal was a bad solder joint at C1, that tiny cap near connector 2 that couples the counter signal to the board. On that board, someone had already hacked it up & removed connectors 1 & 2, and directly soldered the leads to the board! What a mess. I found male/female connectors on Ebay with the right pin spacing (0.1") along with the pins for both & redid the 1 and 2 board connectors. I have more of these if someone needs some, but they are awful cheap and it may be easier to just order them on Ebay. I can provide links, just contact me off group.

The second 830S display (a 1M SN) is somewhat intermittent and it seems it is associated with connector 2. This unit was intended to be a donor unit as it was smashed, but looks pretty good now, but more work to do. - Bob W8RMV

50210. Connector Surpise

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-23 00:30:42 UTC
From: roberteleazer@...
Topic: 50210 Message: 50210

In case y'all have not found out yet, different manufacturers of the 12 pin power plug connectors number the terminals in different ways. Cinch Jones plugs are numbered one way, connectors of the same exact design made by another company (Molex, I think) are numbered differently. I had previously noted that fact, discovered while looking through parts catalogs, but today I got bitten by it myself.

I took one of the many female power plug connectors I have on hand and tried powering up just the solid state electronics in a TS-520 via Pin 9 of the power plug. The dial lights came on but that was all; I could not find power anywhere else in the set. I thought it odd they would not put the dial lights on the filament string but figured that the removal of the LV filter caps had broken the rest of the string.

Then I started looking at the schematic. Sure enough, the dial lights were on the string with the filaments. I realized that I must have hooked up the wrong pin, Pin 7 instead of Pin 9. How stupid!

However, examination revealed that no, I had indeed soldered the power lead to Pin 9. Then I looked at the back of the male connector on the chassis. Pin 9 connected to Pin 7 on the female socket and vice versa!

So keep an eye out for that problem. People occasionally contact this group and complain that they can't get their power plugs to work and typically are advised to just pay attention to which pins are used. But sometimes that won't work.

Have a good weekend!

Robert
WB5WSV

50211. Re: Connector Surpise

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-23 12:46:03 UTC
From: wagstw46@...
Topic: 50210 Message: 50211

Robert

This is why I tried to steer you away from this method of powering the rig. As I have mentioned very easy to power radio at 14vdc wire wrap post on the HV rectifier board or the AVR board and it will not back feed any of your lifted leads.

Far too easy to get turned around wiring this plug. It is not a "Cinch Jones" connector although most of us commonly call it that.

It is a Japanese connector (JCJ12F) and not a American (S312CCT) connector. It is essentially a mirrored image for the numbering scheme.

Go to the Yaesu site and download the Zip file that you will find there.

http://www.foxtango.org/ft101/foxtangoft101misc.htm#Cinch-Jones
http://www.foxtango.org/ft101/foxtangoft101misc.htm#Cinch-Jones

Terry K9TW

50212. DG-1 Counter Mixer Board J-25-1391-13

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-23 16:54:02 UTC
From: wagstw46@...
Topic: 50212 Message: 50212

Any DG-1 repairmen out there have a copy of the Xray view of the later issue Counter Mix Unit board (X54-1150-00)?

All the service manuals that I have searched have the J25-1391-03 board and the later production run TS820s use the J25-1391-13 board. It has changes that have been discussed here before such as a 10 mhz 2 transistor colpitts oscillator in place of the IC2 1mhz oscillator and the addition of VR-1 trim pot to IC1 balanced mixer.

As a point of interest I have had 3 boards this month that all had burned open 14vdc supply L21 470uhy choke and two with failed IC2 chips. These things are all getting long in the tooth.

Thanks
Terry K9TW

50213. RE: [TS-520_820_530_830] DG-1 Counter Mixer Board J-25-1391-13

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-23 18:33:29 UTC
From: David Boothe
Topic: 50212 Message: 50213

Terry,
I was never able to find the x-ray views of the newer board and I looked pretty hard. Most of the on-line manuals available are copies of the same source manual—maybe if someone had a newer one in the drawer somewhere?
Dave
KC3CIP

this msg edited as it contained already posted material. 73 Joe wb7uqu

50214. RE: [TS-520_820_530_830] DG-1 Counter Mixer Board J-25-1391-13

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-23 20:59:16 UTC
From: wagstw46@...
Topic: 50212 Message: 50214

Hi David:

Yes that is why I posted here. I hope that a member that owns a late serial number TS820 purchased the late edition Service Manual and can help.

That assumes of course that KW revised the Service Manual to reflect the changes to the DG-1. They may not have done that.

As far as I know the latest Rev of the TS830S Service Manual is the 3rd Edition, but I cannot tell you what is the latest revision to the TS820S Service Manual.

Serial number convention, issuing of so called "service bulletins", issuing revised manuals and errata sheets was not a KW strong point. The conventions they use may be meaningful to them, but sure not very clear to customers on this side of the pond!

I am thankful that you pointed me to the correct schematic in the Owners Instruction manual. That has been very helpful for troubleshooting. Would just be nice to have the correct X-ray view. It would seem to me if they revised the schematic for the Owners manual that the board x-ray views would have been revised in the companion Service manual.

Terry K9TW

50215. VFO with "slow motion gear"

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-23 23:22:08 UTC
From: n612dw@...
Topic: 50215 Message: 50215

see a 830 VFO on ebay that claims to have this...

KENWOOD TS830S
VFO unit with slow motion gear

what's the buzz... anyone know what this is? i wasnt aware that a VFO was available to slow the tuning rate down and my 830 is one of the last ones ones made in late '86...

is there a different gear that can slow the tuning rate down?

-bob. w9zv

50216. Hybrid Net Update (November 23, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-23 23:48:33 UTC
From: Mark Gilger
Topic: 50216 Message: 50216

Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

The net started it's existence on November 1st, 2012. The yearly check-in totals are posted at the bottom of this message. It showed we had a 10% increase in our Saturday check-ins and an 8% on Sunday as compared to the 2012 check-ins.

The Saturday's net was run by me, WB0IQK. There were 37 stations checking in under good band conditions.

We had the following number of radios checking in.

5 running TS-520(x)

4 running TS-530(x)

4 running TS-820(x)

9 running TS-830S

0 running TS-511

0 running 599 twins

I was running my Drake 'C' liine & Drake L4B amplifier.

The Sunday net was run by me, WB0IQK. There were 30 stations checking in under fair band conditions. He had the following number of radios checking in.

5 running TS-520(x)

0 running TS-530(x)

2 running TS-820(x)

6 running TS-830S

0 running TS-511

0 running 599 twins

The rest were running non Kenwood hybrid equipment.

He was running my Drake 'C' line & Drake L4B amplifier.

We have been having several people checking in
regularly with their TS-430, TS-440, and
TS-940□s, which of course is not a hybrid,
although over 30+ years old. Everyone is welcome
as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a
net control station, please send me an email.
Currently it's just myself, WB2KNR and WB0SGA. I
would like to get several more. If we do, we can
alternate so everyone might be on a 3-4 week
rotation. It's a lot of fun and a good way to
make sure you station is optimized.

For anyone that has not heard, we have a new web
site that WB4HFN is hosting. He currently has a
very nice site for Drake, Collins and Heathkit
and now Kenwood Hybrids. Good quality manuals
plus sale flyers and brochures will be found
here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 □ Oct. 2012 Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins
Nov. 2013 - Oct. 2014 Saturdays total 842 check-ins, Sunday total 744 check-ins

November 2014, Saturday□s net total 106, Sunday□s total = 68 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

50217. Re: [TS-520_820_530_830] VFO with "slow motion gear"

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-23 23:46:32 UTC
From: Joseph Stiles
Topic: 50215 Message: 50217

Bob,
As you know all KW hybrids have a 'slow motion vfo.' The gearing is rather cool if you look at how it operates. Unless someone has superior machining skills and re-worked it...which it doubt...the VFO is nothing special. Someone is obviously not familiar with the rig/vfo.
 73 Joe
WB7UQU

On Sunday, November 23, 2014 3:41 PM, "n612dw@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

  see a 830 VFO on ebay that claims to have this...
 KENWOOD TS830S VFO unit with slow motion gear

what's the buzz... anyone know what this is? i wasnt aware that a VFO was available to slow the tuning rate down and my 830 is one of the last ones ones made in late '86...

is there a different gear that can slow the tuning rate down?
-bob. w9zv
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50218. 11/24/2014 4:31:30 AM

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-24 04:31:30 UTC
From: Megan and john Swarbrick
Topic: 50218 Message: 50218

http://www.rlwhitehead.com/pbnevfln/xyiocboocmhkihq.mhqxneivxyspmvyftdohh

Megan and john Swarbrick

50219. RE: [TS-520_820_530_830] DG-1 Counter Mixer Board J-25-1391-13

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-24 01:36:45 UTC
From: Nathan Johnson
Topic: 50212 Message: 50219

Small data point, but I purchased the ManualMan repro manual for the 820, and it only shows the earlier revision board. Not to say that the repro outfits always have the latest manual, but they usually make a good effort.

Nathan
KK4REY

—

this ms edited as it contained already posted material. 73 Joe wb7uqu

50220. Re: [TS-520_820_530_830] PREVIOUS MESSAGE MAY LINK TO A TROJAN PROGRAM DO NOT CLICK.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-24 04:36:55 UTC
From: Wes Will
Topic: 50218 Message: 50220

On 11/23/2014 10:31 PM, 'Megan and john Swarbrick' jswarbrick@...
[TS-520_820_530_830] wrote:
> http://www. YADA YADA YADA

LIST MEmBERS, especially if using one of the Microsoft WinBlows
(WinSUCKS?) operating systems, DO NOT CLICK ON THAT LINK!!

I did this carp for a living, seen too many of this sort of thing. The
site might have been sanitized and taken down by now, but DO NOT TRY TO
SATISFY YOUR CURIOSITY and click on the link to "see what happens."

It isn't worth all the idiocy of having to rebuild that putrid pile of
garbage that MicroShaft sends out and erroneously calls an "operating
system." Virus magnet, stinking pile of dung, even putrid and decaying
pig carcass, yes. Operating system, no. It's a trap for the unwary....

Some day ask me how I really feel about Gates and his ongoing nightmare
of a corporate monstrosity.....

Anyway, unless you're also a long-standing computer geek, don't use
microcrud software, and have a nice sandbox system to play in, don't
click that link....

--
Wes Will
SysAdmin for TOO many years
N9KDY

50221. RE: [TS-520_820_530_830] PREVIOUS MESSAGE MAY LINK TO A TROJAN PROGRAM DO NOT CLICK.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-24 05:58:32 UTC
From: Joe Wolfe
Topic: 50218 Message: 50221

Wes..

This is a hybrid Kenwood group, not a forum for you to air your dislike of Microsoft software.

There is nothing to replace it, there is no software that is malware free. Ergo, we get to use it.

An FYI....If we users have an up to date anti-malware software installed, the occasional attempt to mine information, or to spam us, will not hurt us. Your anti-malware will pick it up and block it. There is no need to go into a hissy-fit every time someone's email addy get hijacked and used to send along spam.

Let's stick to the topic of Kenwood radios, without the 'the sky is falling' histrionics. Please.

Joe - W7RKN

-----Original Message-----
From: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com]
Subject: Re: [TS-520_820_530_830] PREVIOUS MESSAGE MAY LINK TO A TROJAN PROGRAM DO NOT CLICK.

50222. Re: [TS-520_820_530_830] PREVIOUS MESSAGE MAY LINK TO A TROJAN PROGRAM DO NOT CLICK.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-24 12:00:24 UTC
From: W5RKL
Topic: 50218 Message: 50222

If members wish to discuss their likes/dislikes about Microsoft and
Malware software, you are free to do so between yourselves through your
private email but NOT on this group!

73
Mike W5RKL
Yahoo Kenwood TS_520_820_530_830 Group Moderator

On 11/23/2014 10:36 PM, Wes Will wwill@...
[TS-520_820_530_830] wrote:
>
> On 11/23/2014 10:31 PM, 'Megan and john Swarbrick' jswarbrick@...
> [TS-520_820_530_830] wrote:
> > http://www. YADA YADA YADA
>
> LIST MEmBERS, especially if using one of the Microsoft WinBlows
> (WinSUCKS?) operating systems, DO NOT CLICK ON THAT LINK!!
>
> I did this carp for a living, seen too many of this sort of thing. The
> site might have been sanitized and taken down by now, but DO NOT TRY TO
> SATISFY YOUR CURIOSITY and click on the link to "see what happens."
>
> It isn't worth all the idiocy of having to rebuild that putrid pile of
> garbage that MicroShaft sends out and erroneously calls an "operating
> system." Virus magnet, stinking pile of dung, even putrid and decaying
> pig carcass, yes. Operating system, no. It's a trap for the unwary....
>
> Some day ask me how I really feel about Gates and his ongoing nightmare
> of a corporate monstrosity.....
>
> Anyway, unless you're also a long-standing computer geek, don't use
> microcrud software, and have a nice sandbox system to play in, don't
> click that link....
>
> --
> Wes Will
> SysAdmin for TOO many years
> N9KDY
>
>

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http://www.avast.com

50223. Re: [TS-520_820_530_830] PREVIOUS MESSAGE MAY LINK TO A TROJAN PROGRAM DO NOT CLICK.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-24 14:36:05 UTC
From: Joseph Stiles
Topic: 50218 Message: 50223

Greetings Group,
Thanks Mike & Joe. I agree.
If you want to continue...go outside this forum.
We now return to our regular programing.....
73 Joe
WB7UQUTS-520_820_530_830 yahoo group co-owner

On Monday, November 24, 2014 4:00 AM, "W5RKL w5rkl@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

If members wish to discuss their likes/dislikes about Microsoft and Malware software, you are free to do so between yourselves through your private email but NOT on this group!

73
Mike W5RKL
Yahoo Kenwood TS_520_820_530_830 Group Moderator

On 11/23/2014 10:36 PM, Wes Will wwill@farreaches.org [TS-520_820_530_830] wrote:

On 11/23/2014 10:31 PM, 'Megan and john Swarbrick' jswarbrick@... [TS-520_820_530_830] wrote:
> http://www. YADA YADA YADA

LIST MEmBERS, especially if using one of the Microsoft WinBlows (WinSUCKS?) operating systems, DO NOT CLICK ON THAT LINK!!

I did this carp for a living, seen too many of this sort of thing. The site might have been sanitized and taken down by now, but DO NOT TRY TO SATISFY YOUR CURIOSITY and click on the link to "see what happens."

It isn't worth all the idiocy of having to rebuild that putrid pile of garbage that MicroShaft sends out and erroneously calls an "operating system." Virus magnet, stinking pile of dung, even putrid and decaying pig carcass, yes. Operating system, no. It's a trap for the unwary....

Some day ask me how I really feel about Gates and his ongoing nightmare of a corporate monstrosity.....

Anyway, unless you're also a long-standing computer geek, don't use microcrud software, and have a nice sandbox system to play in, don't click that link....

--
Wes Will
SysAdmin for TOO many years
N9KDY

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50224. Re: Connector Surpise

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-24 14:40:55 UTC
From: roberteleazer@...
Topic: 50210 Message: 50224

Terry:

Yes, I thought about your recommendation when I was attempting to figure out why nothing but the dial lights were coming on. In fact I was looking into doing that via the AVR board but ran out of time.

I had hoped to make some progress yesterday but I had no sooner got to the airport (where I am working on the TS-520, so I could devote part of a workbench to it for an extended period) than a friend came up and said his organization was getting rid of a bunch of old military radios and did I want them? I looked at what he had and replied that yes, indeed, I wanted them. So I spent my available time looking at my new acquisitions and trying to figure out what they are. I expect to get back to the TS-520 today; at least the time spent studying the schematic will be useful during the recapping.

BUT - I am sure glad I found out about the mirror image numbering of those connectors the way I did. Since I have 20 of them and I am going to be building at least 4 power cords, I am glad I did not find out by running 120VAC through the 12VDC circuits.

Thanks again!

Robert
WB5WSV

50225. RE: [TS-520_820_530_830] DG-1 Counter Mixer Board J-25-1391-13

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-24 22:30:30 UTC
From: pmarkavage@...
Topic: 50212 Message: 50225

Let see if I can shed some light.
The original TS-820 operating manual, B50-1568-00, shows the IC-2 and no 2-stage oscillator.
This manual was never updated to a suffix -10, -20, etc.

The TS-820 (S) service manual, B51-0807-00, was somewhat in sync with this operating manual. As far as I can tell, this manual was updated four times, suffix -10, -20, -30. At no time did Kenwood address the circuit changes made on the Counter Board, X54-1160-00, even though later TS-820S models had a new board design (J25-1392-13). It also did not address other changes like new display tube information nor a different display unit board. I'm sure there were other anomalies.

The operating manual for the TS-820S, B50-2529-00, had the new circuit changes in the Counter Board addressed in the included schematic. Likewise, it also included the new display tube information (original display tube was discontinued). As far as I can tell, this operating manual was never updated beyond suffix -00.

There was never a noted "REVISED" or "ISSUE #" on the service manual as they did with the TS-830S/M manual. Issue 3 was the last iteration of the TS-830S/M manual.

Pete, wa2cwa

50226. Ts-520 Surge under Final Area.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-24 20:11:09 UTC
From: kc8jhy@...
Topic: 50226 Message: 50226

There is a soft surge under the final area when I dip the plate current and I see a flash coming from under the tube sockets. This happened after I cleaned the bandswitch. The rig worked fine until I lost 40 and 80 meters. That's what prompted me to clean the switch. HV is good. No forward power at all.

Any idea's. Thanks.

Tom.

50227. Re: [TS-520_820_530_830] Ts-520 Surge under Final Area.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-25 00:47:25 UTC
From: W5RKL
Topic: 50226 Message: 50227

Tom,

I recommend you check the two 6146 10 ohm 1 watt cathode resistors and the two 6146 100 ohm 1/2 watt screen resistors. Normally but not always, the 6146 screen resistors do not fail but check them anyway.

Do you still have 60ma IP idling current with the MODE switch in LSB or USB, MIC gain set fully CCW, the meter switch set to IP, and the transmitter keyed with the microphone PTT button or the SEND switch ?? If the answer is "No" then check the cathode and screen resistors I stated above.

The cathode resistors are the 6146 "common current return path" for 6146 grid, screen, and plate currents. Open 6146 cathode resistors will open the grid, screen, and plate current return path resulting in loss of current flow in the 6146 tubes, hence no IP idling current indicated in transmit.

Failure of the 6146 screen resistors, each tube has one 100 ohm 1/2 watt screen resistor, can also result in the same indication, providing the cathode resistors are not burnt open. In most cases, but not all cases, the 6146 screen resistors do not fail.

Arcing in the base of the 6146 can indicate excessive gas in the 6146 tube(s). Arcing in the 6146 can, but not always, be an arc that occurs between the 6146 plate and beam forming element. The Beam Forming element inside the 6146 is connected back to the cathode inside the tube as well as at the tube socket pins 1, 4, and 6. If this type of arc occurs, the cathode voltage will rise to the level of the plate voltage, +900VDC. This results in approximately 180 amps of cathode current (900 / 5 = 180). The power dissipated in the cathode circuit is 162,000 watts (180 x 180 x 5 = 162,000), resulting in each cathode resistor dissipating approximately 81,000 watts (162000 / 2 = 81000) causing both cathode resistors to burn open.

73
Mike W5RKL
www.w5rkl.com

On 11/24/2014 2:11 PM, kc8jhy@... [TS-520_820_530_830] wrote:
>
> There is a soft surge under the final area when I dip the plate
> current and I see a flash coming from under the tube sockets. This
> happened after I cleaned the bandswitch. The rig worked fine until I
> lost 40 and 80 meters. That's what prompted me to clean the switch. HV
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>

>
> Any idea's. Thanks.
>
>
> Tom.
>
>

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50229. Re: [TS-520_820_530_830] This is, perhaps, a dumb question.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-25 01:01:47 UTC
From: W5RKL
Topic: 50228 Message: 50229

Tom,

Have you checked the final amplifier cathode resistors, there are two 10 ohm 1 watt resistors? I suspect the two 10 ohm cathode resistors burnt open which is the "Pop" you heard.

Since you had the meter switch set to IP when this happened, the only path electrons had to take was through the IP meter circuit so the current flowing through the meter circuit went through the roof which caused the meter to peg hard to the right against the peg stop. I have a video on my website that shows what happens when the TS-520 cathode resistor burnt open.

www.w5rkl.com

Clock on the "Video" link at the top of the page and when the page comes up, scroll down to the TS-520/820 Final amplifier TUNE Cathode and IP meter circuits" links.

The final amplifier consist of two 6146 wired in parallel with two 10 ohm 1 watt cathode resistors hanging from pin 1 on each tube socket to ground (chassis). If these resistor look burnt then replace them. If you have an ohm meter, connect the ohm meter to pin 1 (RED probe) and common (BLACK probe) to the chassis. Set the resistance level to measure 20 ohms or a level close to that. If the cathode resistors are good, you should see "5 ohms" (both cathode resistors are wired in parallel. If the resistance is infinity or significantly higher or intermittent above 5 ohms then the cathode resistors need to be replaced!!!

73
Mike W5RKL
www.w5rkl.com

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http://www.avast.com

50230. Re: [TS-520_820_530_830] This is, perhaps, a dumb question.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-25 01:23:08 UTC
From: K5MYJ
Topic: 50228 Message: 50230

Is it correct that if the 10 ohm cathode resistors open the meter no longest shows plate current?

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"
----- Original Message -----
From: W5RKL w5rkl@... [TS-520_820_530_830]
To: TS-520_820_530_830@yahoogroups.com
Sent: Monday, November 24, 2014 5:01 PM
Subject: Re: [TS-520_820_530_830] This is, perhaps, a dumb question.

Tom,

Have you checked the final amplifier cathode resistors, there are two 10 ohm 1 watt resistors? I suspect the two 10 ohm cathode resistors burnt open which is the "Pop" you heard.

Since you had the meter switch set to IP when this happened, the only path electrons had to take was through the IP meter circuit so the current flowing through the meter circuit went through the roof which caused the meter to peg hard to the right against the peg stop. I have a video on my website that shows what happens when the TS-520 cathode resistor burnt open.

www.w5rkl.com

Clock on the "Video" link at the top of the page and when the page comes up, scroll down to the TS-520/820 Final amplifier TUNE Cathode and IP meter circuits" links.

The final amplifier consist of two 6146 wired in parallel with two 10 ohm 1 watt cathode resistors hanging from pin 1 on each tube socket to ground (chassis). If these resistor look burnt then replace them. If you have an ohm meter, connect the ohm meter to pin 1 (RED probe) and common (BLACK probe) to the chassis. Set the resistance level to measure 20 ohms or a level close to that. If the cathode resistors are good, you should see "5 ohms" (both cathode resistors are wired in parallel. If the resistance is infinity or significantly higher or intermittent above 5 ohms then the cathode resistors need to be replaced!!!

73
Mike W5RKL
www.w5rkl.com

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www.avast.com

50231. Re: Connector Surpise

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-25 01:54:57 UTC
From: wagstw46@...
Topic: 50210 Message: 50231

Well we all unfortunately could share stories of how we learned the hard way. At least those who were fortunate enough to walk away with only pride and pocket book hurt.

I do appreciate and applaud your safety sensitivity. Anytime you place one of these radios in a non standard wiring config for testing purposes you have chance to get hurt or destroy something so what you propose to do has to be evaluated and never hurts to come here and ask for a head check just as you did.

Also lifting leads and installing jumpers isnt only act that can get you in trouble. Making assumptions and relying on wiring and color conventions can get you in lots of trouble. Defeating interlocks and blocking relays and relay contacts has to be well thought out. Have to recognize the risks and use appropriate risk management measures.

Terry K9TW

50232. RE: [TS-520_820_530_830] DG-1 Counter Mixer Board J-25-1391-13

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-25 02:01:30 UTC
From: wagstw46@...
Topic: 50212 Message: 50232

Thanks Pete I was afraid that was the case.

I have been helping an individual off the reflector and explaining why KW engineers added VR-1 IC1 Mixer Carrier Null pot and how to adjust it and what the effect on the display is if the 7.830mhz LO carrier is not adequately suppressed.

That individual asked good question as to why there wasnt any documentation and I couldnt say with 100% certainty that there wasnt a revised Service Manual out there. It seemed plausible to me that there would be given that KW had updated the Owners Instruction manual schematic.

I am able to do the work absent the Xray view of the board, but would be nice to have one.

Thanks
Terry K9TW

50233. TS-520 AVR Board Discovery

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-25 02:16:12 UTC
From: roberteleazer@...
Topic: 50233 Message: 50233

I finally succeeded in powering up my "in-work' TS-520 via 12 VDC applied to Pin 9 of the power connector.

I could hear a hiss coming out of the speaker, but it was not very loud, although its strength was affected by the main audio gain control.

I checked to see if I had the proper voltages on the AVR board and was surprised to find that touching one of the connections - the "posts" sticking up - caused the noise from the speaker to increase in volume and to include "radio static" type of noise.

In fact, if I pressed on that post with a screwdriver fairly hard, I could tune in a strong 25 KHZ calibration signal with the main tuning knob.

So it sure seems like that there is a cold solder joint or something like that at that post. Right now I do not know what that connection is for, but it is one of the larger ones on the middle of the side of the board, one that seems to be hooked to shielded wire.

I hope to work more on it tomorrow.

Thanks,

Robert

50234. RE: [TS-520_820_530_830] DG-1 Counter Mixer Board J-25-1391-13

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-25 03:10:44 UTC
From: pmarkavage@...
Topic: 50212 Message: 50234

You said:
"It seemed plausible to me that there would be given that KW had updated the Owners Instruction manual schematic.
I am able to do the work absent the Xray view of the board, but would be nice to have one.
Thanks Terry K9TW "

When Kenwood updated any page in their operating manuals, the suffix "-" number was increased. The TS-820 operating manual was never incremented up in it's suffix "-" number nor was the TS-820S suffix "-" number. The schematic changed when they went from the TS-820 operating manual to the TS-820S operating manual but the manual part numbers were different (i.e. two different manuals).
Pete, wa2cwa

50235. Re: [TS-520_820_530_830] This is, perhaps, a dumb question.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-25 01:39:22 UTC
From: Tom Maier
Topic: 50228 Message: 50235

I believe that it would go to full scale because the meter is in series with a 3K resistor that would be across the (now open) 10 ohm resistors so it would see a relatively high voltage. Fortunately, the meter seems to survived unscathed.

I appreciate the heads up there and I will take a look at the resistors ASAP, but I am really interested in finding out if the light bulb is still suitable for a test load or do I have to find a better dummy load. I could kick myself for getting rid of the Cantenna.

Tom, K3WFN

Tom, K3WFN

this msg edited as it contained already posted material. 73 Joe wb7uqu

50236. Re: [TS-520_820_530_830] This is, perhaps, a dumb question.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-25 04:49:45 UTC
From: Bob
Topic: 50228 Message: 50236

Showing my age, but I used a bulb on my first transmitter, a Heath DX-20 in 1959. But there are several problems: light bulbs do radiate somewhat. A cold bulb has different and changing resistance as it heats up. I'm sure there are other issues as well.
I think if you can purchase even the MFJ 100 watt or 300 watt dry dummy load (around $45 I think) much better in the short and long run, since I don't believe the bulb will provide the known non-radiating 50 ohm load you need to tune into if using an antenna tuner to match your antenna, or an amp.
I have seen Genuine and home brew "cantenna" for sale on several site like QTH, and..eBay. I had one too, but can started leaking after 20 years.
73
Bob WA2JAJ/4
  From: "Tom Maier carvintom@... [TS-520_820_530_830]"
<TS-520_820_530_830@yahoogroups.com>
To: TS-520_820_530_830@yahoogroups.com
Sent: Monday, November 24, 2014 8:39 PM
Subject: Re: [TS-520_820_530_830] This is, perhaps, a dumb question.

  I believe that it would go to full scale because the meter is in series with a 3K resistor that would be across the (now open) 10 ohm resistors so it would see a relatively high voltage. Fortunately, the meter seems to survived unscathed.

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Tom, K3WFN

Tom, K3WFN

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50237. Re: TS-520 AVR Board Discovery

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-25 12:54:34 UTC
From: roberteleazer@...
Topic: 50233 Message: 50237

Well, I ran some more tests early this morning and the "cold solder joint" problem seems to have gone away. The problem was with the output lead but it is working Okay now.

I was bale to get a 25 KHZ calibrator signal on all bands, although it was much stronger on WWV. I have seen on my other TS-520 that the WWV switch tends to get sticky in the antenna area. So I cleaned all the switches on the front with electronic cleaner.

The rig does seem to be working, so it's on with the recapping and rebuilding the power supply!

Thanks, all!

Robert
WB5WSV

50238. Re: [TS-520_820_530_830] This is, perhaps, a dumb question.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-25 13:46:06 UTC
From: W5RKL
Topic: 50228 Message: 50238

Tom,

MFJ sells an dry 300 watt dummy load for $36.95 plus shipping. I use one on my bench but the maximum time a steady carrier can be applied to the 260C dummy load, at 100 watts, is 90 seconds, see the 260C manual for details.

http://www.mfjenterprises.com/Downloads/index.php?productid=MFJ-260C&filename=MFJ-260C.pdf&company=mfj

You are correct, the full anode current will flow through the simple series IP meter circuit if both cathode resistor burnt open.

The IP meter circuit actually measure DC voltage but displays the voltage on the meter's top scale as current.

The internal resistance of the TS-520 meter is approximately 600 ohms. This value can vary from meter to meter but not by much.

The 3.3K resistor you refer to is the meter multiplier resistor. You can determine what the voltage level that will be applied to the meter at any given IP current level by simply performing the Ohms Law math calculations shown in my video.

73
Mike W5RKL
www.w5rkl.com

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http://www.avast.com

50239. Re: [TS-520_820_530_830] This is, perhaps, a dumb question.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-25 13:39:25 UTC
From: Tom Maier
Topic: 50228 Message: 50239

What with the upcoming holiday, any troubleshooting will be delayed. I am curious, though. Assuming that the cathode resistors have let go (a very reasonable possibility which would certainly explain the condx) why would they? Old age? Bad bypasses allowing too much RF current to flow thru them? Did I do something wrong during tune-up?

The reason why I ask is that I knew that the output tubes could be a little...well...old...so I was being very judicious in the amount of plate current I loaded up to. Since the book said I could go up to 200 ma, I was keeping it at a very sedate 150 ma. That gave me about 50 watts and that was good enough.

Any explanations?

Tom, K3WFN

50240. Re: [TS-520_820_530_830] This is, perhaps, a dumb question.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-25 19:15:07 UTC
From: Tom Maier
Topic: 50228 Message: 50240

Yep, I figured that all out. The only reason I can see for the 10 ohm resistors is to provide a shunt to read the plate current. The 3K resistor + the meter's internal resistance set the scale for the meter.

I took your suggestion and sought out the cathode resistors. Sure enough, they're gone. Not completely open, as I might have expected based on the pop, but each with a resistance of about 3K. In fact, only one even looks like it even had a problem. It has an almost invisible crack on the bottom (unseen, naturally) side. The others look like they just came out of the drawer.

What is more interesting to me is that 1) you knew right away what to look for and 2) that they had already been replaced by the previous owner, so this must be a recurring problem with TS-520s, but I'm not sure I understand why.

The DC power dissipated in either of the 10 ohm resistors should only be about 0.1watt [i.e. 100 ma per tube = 0.1A thru each resistor. (0.1A * 0.1A) * 10 ohms = 0.1 w]. The two 1/2 watt, 22 ohm resistors that the previous owner put in parallel produced an equivalent 11 ohm (not perfect but close enough), 1 watter. If this is just a DC problem that combination should have lasted forever.

Could I be seeing excess RF currents due to bad/or open cathode bypasses? I don't see any other reason for a failure.

Tom, K3WFN

Tom, K3WFN

this msg edited as it contained already posted material. 73 Joe wb7uqu

50241. Re: [TS-520_820_530_830] This is, perhaps, a dumb question.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-25 20:37:53 UTC
From: Mike W5RKL
Topic: 50228 Message: 50241

Hi Tom,

You can find new (NOS) 6146Bs at various on-line outlets,

1. https://www.tubedepot.com/products/6146b-8298a
2. http://www.rfparts.com/catalogsearch/result/?q=6146
3. http://www.vacuumtubes.net/Prices%206000%20to%207199.htm

If you replace the final tubes you will have to neutralize the final.

Yes Tom, you're very close. For example, if the cathode current is 225ma and each cathode resistor is 10 ohm 1 watt, each cathode resistor will dissipate approximately .127 watts (127mw), which is not even 1/4 watt.

.225 x 5 = 1.125(cathode voltage)

1.125 / 10 = .1125 (current flowing in each cathode resistor, it's NOT the same as the total cathode current!!)

.1125 x = x 10 = .1265 watts (the "x =" is the same as pressing the Square key after entering .1125 on a calculator keypad)

Even though the cathode power dissipation is low I would not lower the cathode resistors power rating to a level that's less than 1 watt.

If you suspect the 6146 tubes are toast then I would replace them. You initially said they seem to be old. Not knowing what the tubes have been subjected to over their life span, you can't say with any certainty what condition the tubes are in, especially after this failure. I have seen 6146 cathode resistors fail after being subjected to constant high current levels such as running RTTY at constant high output power level which should never be done, the final amplifier is not designed to operate at constant high RF output levels.

In most cases you do not have to replace the 6146 100 ohm 1/2W screen resistors.

73
Mike W5RKL
www.w5rkl.com

On 11/25/2014 1:15 PM, Tom Maier carvintom@...
[TS-520_820_530_830] wrote:
> Yep, I figured that all out.Â The only reason I can see for the 10
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> bypasses?Â I don't see any other reason for a failure.
>
> Tom, K3WFN
>
> Tom, K3WFN
>
> this msg edited as it contained already posted material. 73 Joe wb7uqu
>

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http://www.avast.com

50242. 520S Parting out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-25 21:16:12 UTC
From: Nathan Johnson
Topic: 50242 Message: 50242

I have a 520S that is pretty far gone(had to evict a mud-dauber nest), no real attempt to troubleshoot was made other than to note that the rectifier board was burnt into multiple pieces. I got it for the VFO, which I am using to repair my 820. VFO tested and working, so not everything was killed by whatever got the rectifier.

Anybody want parts? Since I am not fully equipped to test this stuff, I'll be sending most of it just for the cost of shipping... I already got my money out of the VFO. I have basic test equipment, and can take good pics of any part you want.

Nathan
KK4REY

_
Sent from Mailbox

50243. Re: Ts-520 Surge under Final Area.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-25 20:15:20 UTC
From: kc8jhy@...
Topic: 50226 Message: 50243

Thanks for the help Mike.

I recently repaired this rig due to a foolish mistake on my part. I mis-read the line fuse and fried diodes and resistors. The rig sat for 3 years with a bad fuse. Don't remember what happened. I replaced cracked diodes 8,9,10 and 11 on the rectifier board along with new filter cap's. Resistor's 1,2,3, and 6 on the same board. I'm getting 912v off the 800v out pin on the rectifier board I wondering about that as a suspect.

I did replace the 2 cathode resistor's as well as the grid screen resistors. After that the rig ran good for 2 weeks made plenty of contacts. Then I lost 80 and 40 meters so I suspected the bandswitch and cleaned it. Then this happened. I checked all the components I installed and they are good. Idling current is 60ma. HV is good as well as ALC.

No forward power on swr. I sure the tube are bad now. I have a spare set but have to fix this before I use them. I studied the schematic over and over again and at a stand still. That's where I'm at now.

Tom.
KC8JHY

50244. Re: [TS-520_820_530_830] 520S Parting out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-25 21:53:10 UTC
From: rdrbill@...
Topic: 50242 Message: 50244

Nathan, I could use a cabinet if its semi decent

73, Bill, wa6neq
Sent via BlackBerry by AT&T

-----Original Message-----
From: "'Nathan Johnson' jdownj@gmail.com [TS-520_820_530_830]"
<TS-520_820_530_830@yahoogroups.com>
Sender: TS-520_820_530_830@yahoogroups.com
Date: Tue, 25 Nov 2014 13:16:12
To: <TS-520_820_530_830@yahoogroups.com>
Reply-To: TS-520_820_530_830@yahoogroups.com
Subject: [TS-520_820_530_830] 520S Parting out

I have a 520S that is pretty far gone(had to evict a mud-dauber nest), no real attempt to troubleshoot was made other than to note that the rectifier board was burnt into multiple pieces. I got it for the VFO, which I am using to repair my 820. VFO tested and working, so not everything was killed by whatever got the rectifier.

Anybody want parts? Since I am not fully equipped to test this stuff, I'll be sending most of it just for the cost of shipping... I already got my money out of the VFO. I have basic test equipment, and can take good pics of any part you want.

Nathan
KK4REY

_
Sent from Mailbox

50245. Re: [TS-520_820_530_830] 520S Parting out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-25 22:13:40 UTC
From: Nathan Johnson
Topic: 50242 Message: 50245

Bill,
Replied off-list with pics.

Nathan
KK4REY

_
this msg edited/shortened as it contained already posted material. 73 Joe wb7uqu

50246. Re: [TS-520_820_530_830] Re: Ts-520 Surge under Final Area.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-25 23:14:20 UTC
From: W5RKL
Topic: 50226 Message: 50246

Tom,

Seeing 912VDC at the Rectifier Unit's 800 terminal is not unusual. The KW hybrid's all have a voltage doubling HV power supply. The "AC800" winding on the power transformer secondary is NOT 800VAC but rather an AC voltage that is significantly less.

The 2 HV filter capacitors, C31 and C32 both 100ufd at 500VDC, are wired in "series" resulting in a total capacitance of 50ufd (100 x 100 / 100 + 100 = 50). Capacitors in series are calculated using the same formulas that resistors in parallel use. Since both capacitors have the same value, 100ufd at 500VDC, you can simply divide 100 by 2 and get 50ufd total capacitance but the combined maximum operating DC voltage "doubles" to 1KV. Each capacitor charges separatelybut the capacitors discharge together as one 50ufd capacitor.

The Rectifier Unit's "HV Unit 800" terminal accepts the 912VDC from the Rectifier Unit's "800" terminal and through the series resistor voltage divider consisting of R1, R2, R3, and R4, drops the 912VDC down to a voltage level at the junction of R1 and R2, that is applied to the HV Unit's "HV" terminal and ultimately through the meter switch HV position to display the final amplifier's HV. If you measured the HV Unit's "HV" terminal, it would be very low.

By the way, the meter switch positions are "disabled" in receive. The meter displays variations in the receiver's AGC voltage, i.e., displays "S Units" in receive. This is accomplished by relay RL2-2 as seen on the 520 schematic.

73
Mike W5RKL
www.w5rkl.com

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http://www.avast.com

50247. Re: 520S Parting out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-26 00:54:11 UTC
From: roberteleazer@...
Topic: 50242 Message: 50247

Nathan:

Well, that is a generous offer! While I am repairing a TS-520, I don't think I'll need anything else. It is missing the cover over the final amp section but I should have no problem fabricating a replacement out of scrap aircraft aluminum plate. It's also missing some knobs but I have already replaced them with non-Kenwood knobs (Radio Shack) and I'm satisfied with that.

I recommend that you consider selling the transformer if it seems to be Okay. Those tend to be pricey items and are not too common. Or - you really might want to retain it for your TS-820 as a spare, since it should work there as well; that is what I would do.

Best Regards,

Robert
WB5WSV

50248. Re: [TS-520_820_530_830] Re: Ts-520 Surge under Final Area.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-26 00:58:20 UTC
From: roberteleazer@...
Topic: 50226 Message: 50248

MIke:

That reminds me. In this basket case TS-520 I am working on I am replacing the the 100 MFD filter caps with four 68 MFD caps hooked in series/parallel. Would you expect to see a significant increase in HV as a result?

Thanks

Robert
WB5WSV

50249. Re: [TS-520_820_530_830] 520S Parting out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-26 01:22:10 UTC
From: Jim Lamanteer
Topic: 50242 Message: 50249

NATHAN I WOULD LIKE TO KNOW WHAT PARTS U HAVE LEFT? GOT A COMTACT PHHONR NUMBER? OR OFF LINE E-MAIL? THANKS JIMMY WB2KNR
From: "'Nathan Johnson' jdownj@... [TS-520_820_530_830]"
<TS-520_820_530_830@yahoogroups.com>
To: TS-520_820_530_830@yahoogroups.com
Sent: Tuesday, November 25, 2014 4:16 PM
Subject: [TS-520_820_530_830] 520S Parting out

I have a 520S that is pretty far gone(had to evict a mud-dauber nest), no real attempt to troubleshoot was made other than to note that the rectifier board was burnt into multiple pieces. I got it for the VFO, which I am using to repair my 820. VFO tested and working, so not everything was killed by whatever got the rectifier.
Anybody want parts? Since I am not fully equipped to test this stuff, I'll be sending most of it just for the cost of shipping... I already got my money out of the VFO. I have basic test equipment, and can take good pics of any part you want.
NathanKK4REY
—
Sent from Mailbox <!--

50250. Re: [TS-520_820_530_830] 520S Parting out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-26 01:28:38 UTC
From: Nathan Johnson
Topic: 50242 Message: 50250

Feel free to call me 910-964-4363 or email jdownj@.... The radio is complete with the exception of the VFO and the rectifier board. The transformer is untested, that I will be testing tonight after the net I'm working.

Nathan

KK4REY

—
Sent from Mailbox

On Tue, Nov 25, 2014 at 7:25 PM, Jim Lamanteer jimlamanteer@...
[TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com> wrote:

> NATHAN I WOULD LIKE TO KNOW WHAT PARTS U HAVE LEFT? GOT A COMTACT PHHONR NUMBER? OR OFF LINE E-MAIL? THANKS JIMMY WB2KNR
> From: "'Nathan Johnson' jdownj@... [TS-520_820_530_830]"
<TS-520_820_530_830@yahoogroups.com>
> To: TS-520_820_530_830@yahoogroups.com
> Sent: Tuesday, November 25, 2014 4:16 PM
> Subject: [TS-520_820_530_830] 520S Parting out
>
> I have a 520S that is pretty far gone(had to evict a mud-dauber nest), no real attempt to troubleshoot was made other than to note that the rectifier board was burnt into multiple pieces. I got it for the VFO, which I am using to repair my 820. VFO tested and working, so not everything was killed by whatever got the rectifier.
> Anybody want parts? Since I am not fully equipped to test this stuff, I'll be sending most of it just for the cost of shipping... I already got my money out of the VFO. I have basic test equipment, and can take good pics of any part you want.
> NathanKK4REY
> —
> Sent from Mailbox <!--

50251. Re: [TS-520_820_530_830] 520S Parting out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-26 02:10:35 UTC
From: R Oler
Topic: 50242 Message: 50251

sorry to late for this see ou have plenty takes...if you have anything left let me know
Robert WB5MZO

Sent from my iPad

> On Nov 25, 2014, at 15:45, 'Nathan Johnson' jdownj@gmail.com [TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com> wrote:
>
> I have a 520S that is pretty far gone(had to evict a mud-dauber nest), no real attempt to troubleshoot was made other than to note that the rectifier board was burnt into multiple pieces. I got it for the VFO, which I am using to repair my 820. VFO tested and working, so not everything was killed by whatever got the rectifier.
>
>
> Anybody want parts? Since I am not fully equipped to test this stuff, I'll be sending most of it just for the cost of shipping... I already got my money out of the VFO. I have basic test equipment, and can take good pics of any part you want.
>
> Nathan
> KK4REY
>
> —
> Sent from Mailbox
>

50252. Re: [TS-520_820_530_830] This is, perhaps, a dumb question.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-26 00:22:17 UTC
From: Tom Maier
Topic: 50228 Message: 50252

Wow! the prices for 6146s!

I can remember when I could start off with $10, ride the streetcar to Radio row in Pittsburgh, buy a 6146, grab a Coke at one of the places downtown, ride the streetcar home and still have some money in my pocket.

Tom, K3WFN

50253. Re: [TS-520_820_530_830] 520S Parting out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-26 02:49:06 UTC
From: Nathan Johnson
Topic: 50242 Message: 50253

So far, MIC/CAR knobs are gone, and someone is looking at the rest of the knobs, contact me off-list with specific needs.

Nathan

KK4REY

—
Sent from Mailbox

On Tue, Nov 25, 2014 at 8:10 PM, R Oler orbitjet@hotmail.com [TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com> wrote:

> sorry to late for this see ou have plenty takes...if you have anything left let me know Robert WB5MZO
> Sent from my iPad
>> On Nov 25, 2014, at 15:45, 'Nathan Johnson' jdownj@... [TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com> wrote:
>>
>> I have a 520S that is pretty far gone(had to evict a mud-dauber nest), no real attempt to troubleshoot was made other than to note that the rectifier board was burnt into multiple pieces. I got it for the VFO, which I am using to repair my 820. VFO tested and working, so not everything was killed by whatever got the rectifier.
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>>
>> Anybody want parts? Since I am not fully equipped to test this stuff, I'll be sending most of it just for the cost of shipping... I already got my money out of the VFO. I have basic test equipment, and can take good pics of any part you want.
>>
>> Nathan
>> KK4REY
>>
>> —
>> Sent from Mailbox
>>

50254. Re: [TS-520_820_530_830] Re: Ts-520 Surge under Final Area.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-26 03:49:30 UTC
From: W5RKL
Topic: 50226 Message: 50254

Robert,

Why would you install a collection of four 68ufd electrolytic capacitors to replace the two 100ufd 500VDC caps when Ken, K4EAA, sells 120ufd 500VDC replacement caps for $24.99???

http://www.k4eaa.com/parts.htm

Scroll down the page and you'll see the HV cap replacement kit he is selling.

Now lets look at the cap configuration you are considering. You say you have four 68ufd caps that you plan on wiring in "series/parallel". You did not say what the voltage rating of each cap is but I'll assume it's at least 450VDC for each capacitor. Hopefully I'm not making a bad assumption here!!!

Now, connect 2 of the 68ufd caps in series, what is the total capacitance and total working voltage? The answer is 34ufd at 900VDC (68 x 68 / 68 + 68 = 34) and the voltage rating "adds" so the series string voltage rating is now "900VDC". Repeat this with the other two 68ufd 450VDC caps and you get the same results. Now you have 2 series string caps with a total capacitance of 34ufd at 900VDC "each string". When you connect the 2 series string caps in "parallel" the total capacitance is now 68ufd but the working voltage is still at "900VDC", not "1800VDC" as one might think!!!

As for an increase in HV the answer is no. If you are asking will the working voltage of the four 68ufd 450VDC series/parallel capacitor connections result in a working voltage of 1800VDC the answer is "No".

Personally, Robert, I would not do what you are considering doing. I would spend the $24.95 and purchase Ken's HV cap replacement kit and be done with it!!

73
Mike W5RKL
www.w5rkl.com

On 11/25/2014 6:58 PM, roberteleazer@... [TS-520_820_530_830] wrote:
>
> MIke:
>
> That reminds me. In this basket case TS-520 I am working on I am
> replacing the the 100 MFD filter caps with four 68 MFD caps hooked in
> series/parallel. Would you expect to see a significant increase in HV

> as a result?
>
> Thanks
>
> Robert
> WB5WSV
>
>

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50255. PARTING TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-26 03:50:35 UTC
From: k7mks@...
Topic: 50255 Message: 50255

What might you need? Also unused 27" 9 pin VFO interconnecting cable $10 + USPS.

joe k7mks

50256. Speaking of K4EAA....

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-26 13:40:34 UTC
From: rrmvargo@...
Topic: 50256 Message: 50256

Anyone deal with Ken lately? Sent a few emails over the last couple of weeks & have not heard back.
-Bob W8RMV

50257. Re: [TS-520_820_530_830] Speaking of K4EAA....

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-26 14:23:37 UTC
From: rjayhpd@...
Topic: 50256 Message: 50257

Bob ,
I sent a couple also week or so apart ,No reply with mine either....Jay

.

50258. Re: Speaking of K4EAA....

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-26 14:52:51 UTC
From: bauertom@...
Topic: 50256 Message: 50258

Same here. Sent him an email November 11.. Hasn't answered it. Normally, he's very prompt and helpful. Ordered some caps from him on the 20th. Haven't seen those yet. Hope he's ok but feel like something is up. Tom
KE0ABA

50259. RE: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-26 15:42:41 UTC
From: David Boothe
Topic: 50228 Message: 50259

Tom,
I may get flack for this, but there is an alternative to the $50+ per tube prices for 6146B. My “project” 820S had low output and its GE JAN 6146Ws were shot. I ordered NOS 6146B’s from the Tube Center in FL, but they sent me Chinese tubes ($20 apiece). They offered to exchange them, but I needed finals and tried them out. I idled them in the rig for 3-4 hours before (carefully) neutralizing and tuning into a dummy load. They have worked exceptionally well in the rig over many contacts in the past couple months—solid 100W at 225ma plate current on all bands with good, sharp plate current dips (including 10M). I had also installed a new driver 12BY7A (obtained from K4EAA) and that helps too.

Maybe I’m just lucky—you see quite a few stories about flash-overs, etc, but I’m satisfied so far. The only labeling on the tubes is “CHINA 6146B.” I’ve also seen plenty of stories about flash-overs and defects with NOS tubes, too, so I’m just saying there is another option as the other supplies dwindle. High-potting any new candidates would be good, if you have the equipment (I do not).

Dave
KC3CIP

this msg edited/shortened as it contained already posted material. 73 Joe wb7uqu

50260. Re: [TS-520_820_530_830] Re: Speaking of K4EAA....

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-26 17:18:10 UTC
From: Joseph Stiles
Topic: 50256 Message: 50260

Greetings Group,
RE: Ken Kemski-k4eaa
So as not to violate HIPPA..the all inclusive medical privacy LAW,
Ken has had some difficulties in the recent past, and maybe experiencing them again. He also gets swamped with "help me emails."

His wonderful XYL- Barb takes care of the orders that come in and gets them processed really fast.
So, that's all I can say about that.

73 Joe
WB7UQUTS-520_820_530_830 yahoo group Co-owner

On Wednesday, November 26, 2014 7:51 AM, "bauertom@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Same here. Sent him an email November 11.. Hasn't answered it. Normally, he's very prompt and helpful. Ordered some caps from him on the 20th. Haven't seen those yet. Hope he's ok but feel like something is up. TomKE0ABA

50261. Re: [TS-520_820_530_830] Re: Speaking of K4EAA....

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-26 17:37:07 UTC
From: Craig Roberts
Topic: 50256 Message: 50261

I ordered a few bits from the Kemskis last week and Barb had them out
the door the same day -- as always.

I am concerned about Ken, however. I hope all is -- or will be -- okay.

73,

Craig
W3CRR

50262. Re: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-26 18:53:26 UTC
From: Mike W5RKL
Topic: 50228 Message: 50262

You can buy 6146Bs, not Chinese, for $32 each at

www.vacuumtubes.net

I buy all my tubes, including 6146s, from them and I have never received
a bad tube yet.

73
Mike W5RKL
www.w5rkl.com

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http://www.avast.com

50263. Re: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-26 19:37:24 UTC
From: Louis Wilen
Topic: 50228 Message: 50263

Mike and others:

Any tips on would take to build a “flashover tester” for 6146B tubes? I’m thinking that such a device would provide 800 VDC, with current limited to 225 ma, to the plate and if the tube didn’t flashover, there is at least some assurance (not 100%, of course) that the tube won’t flashover when installed in an HF rig.

What other elements of the tube would need power to do a basic flashover test?

(Appropriate safety precautions would have to be built into the device, of course.)

Louis
W3VVV

From: mailto:TS-520_820_530_830@yahoogroups.com
Sent: Wednesday, November 26, 2014 1:53 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

You can buy 6146Bs, not Chinese, for $32 each at

www.vacuumtubes.net

I buy all my tubes, including 6146s, from them and I have never received
a bad tube yet.

73
Mike W5RKL
www.w5rkl.com

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http://www.avast.com

50264. Re: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-26 20:29:56 UTC
From: Jan Servaites
Topic: 50228 Message: 50264

Louis,
What a coincident, I'm working on a "tester" right now. I have thought about this, and I feel an old hybrid transformer is enough to provide all the power needed (I do use a small filament transformer on a variac). I salvaged a transformer from a junked 820 (strapped to 120v) and I have been experimenting with it and I did some conduction tests on all my 6146 tubes so far.
I'm using voltages directly off the windings up to this point. Highest plate voltage so far is about 300v, bring it up on a variac.
I power the screen too, but its not as high as the plate, and you don't want it as high (a 10:1 ratio in voltage is about right). I also have a 2W resistor in series in the secondary winding to limit current in the secondary winding. I'll need to get a larger glitch resistor in there, when I go for higher plate voltage
My next step is to raise the plate voltage, so I can achieve a flash over. When I have a good design for the 6146s, I'll build a larger one for power amplifier tubes to include the 3-500z and the external anode ceramics.

(I also have built a 10kv (100uA limited) hipot tester, and have run some leakage tests on my 6146 tubes. I now hipot all my new tank components (like C1 & C2 in a Pi-circuit) and if they arc over, I can work in that arc area and file down the sharp edges and/or apply corona paint to those areas. That assures I have some good components to install in my homebrewed amps)
Jan N8CBX

'Louis Wilen' louis.wilen@... [TS-520_820_530_830] wrote:

>
>
>
> Any tips on would take to build a “flashover tester” for 6146B
> tubes? I’m thinking that such a device would provide 800 VDC, with
> current limited to 225 ma, to the plate and if the tube didn’t
> flashover, there is at least some assurance (not 100%, of course) that
> the tube won’t flashover when installed in an HF rig.
>
>
>

50265. Re: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-26 21:18:50 UTC
From: Mark Gilger
Topic: 50228 Message: 50265

Louis,
Jan's giving you an incite into a tester for off line testing he's designing which should help screen out the majority of bad tubes To be assured that flash over's won't harm your radio if they do in fact happen once installed, you can install a circuit that Terry, K9TW designed.

I can say it does work as advertised as I've installed it in several of my problem Hybrids.

http://www.wb4hfn.com/KENWOOD/Articles/Technical_EX-004.pdf

73's,
Mark, WB0IQK

50266. Re: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-26 22:48:33 UTC
From: Louis Wilen
Topic: 50228 Message: 50266

Jan -- What is resistance value of the 2 watt resistor?

Louis
W3VVV

From: mailto:TS-520_820_530_830@yahoogroups.com
Sent: Wednesday, November 26, 2014 3:29 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Louis,
What a coincident, I'm working on a "tester" right now. I have thought about this, and I feel an old hybrid transformer is enough to provide all the power needed (I do use a small filament transformer on a variac). I salvaged a transformer from a junked 820 (strapped to 120v) and I have been experimenting with it and I did some conduction tests on all my 6146 tubes so far.
I'm using voltages directly off the windings up to this point. Highest plate voltage so far is about 300v, bring it up on a variac.
I power the screen too, but its not as high as the plate, and you don't want it as high (a 10:1 ratio in voltage is about right). I also have a 2W resistor in series in the secondary winding to limit current in the secondary winding. I'll need to get a larger glitch resistor in there, when I go for higher plate voltage
My next step is to raise the plate voltage, so I can achieve a flash over.
When I have a good design for the 6146s, I'll build a larger one for power amplifier tubes to include the 3-500z and the external anode ceramics.

(I also have built a 10kv (100uA limited) hipot tester, and have run some leakage tests on my 6146 tubes. I now hipot all my new tank components (like C1 & C2 in a Pi-circuit) and if they arc over, I can work in that arc area and file down the sharp edges and/or apply corona paint to those areas. That assures I have some good components to install in my homebrewed amps)
Jan N8CBX

'Louis Wilen' louis.wilen@... [TS-520_820_530_830] wrote:

Any tips on would take to build a “flashover tester” for 6146B tubes? I’m thinking that such a device would provide 800 VDC, with current limited to 225 ma, to the plate and if the tube didn’t flashover, there is at least some assurance (not 100%, of course) that the tube won’t flashover when installed in an HF rig.

50267. Re: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-26 22:55:06 UTC
From: Craig Roberts
Topic: 50267 Message: 50267

Like Mark, I can attest to the efficiency of Terry's mod. I installed it in each of my hybrids, one of which suffered a "new" tube flashover event with no harm to the radio whatsoever. I am happy to be relieved of the annoying cathode resistor changing task while using the rig itself as a "tube tester."

73,

Craig
W3CRR

On November 26, 2014, at 16:18, "Mark Gilger mgilger@brightdsl.net [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Louis,
Jan's giving you an incite into a tester for off line testing he's
designing which should help screen out the majority of bad tubes To
be assured that flash over's won't harm your radio if they do in fact
happen once installed, you can install a circuit that Terry, K9TW designed.

I can say it does work as advertised as I've installed it in several
of my problem Hybrids.

http://www.wb4hfn.com/KENWOOD/Articles/Technical_EX-004.pdf

73's,
Mark, WB0IQK

<!-- #ygrp-mkp { border: 1px solid #d8d8d8; font-family: Arial; margin: 10px 0; padding: 0 10px; } #ygrp-mkp hr { border: 1px solid #d8d8d8; } #ygrp-mkp #hd { color: #628c2a; font-size: 85%; font-weight: 700; line-height: 122%; margin: 10px 0; } #ygrp-mkp #ads { margin-bottom: 10px; } #ygrp-mkp .ad { padding: 0 0; } #ygrp-mkp .ad p { margin: 0; } #ygrp-mkp .ad a { color: #0000ff; text-decoration: none; } #ygrp-sponsor #ygrp-lc { font-family: Arial; } #ygrp-sponsor #ygrp-lc #hd { margin: 10px 0px; font-weight: 700; font-size: 78%; line-height: 122%; } #ygrp-sponsor #ygrp-lc .ad { margin-bottom: 10px; padding: 0 0; } #actions { font-family: Verdana; font-size: 11px; padding: 10px 0; } #activity { background-color: #e0ecee; float: left; font-family: Verdana; font-size: 10px; padding: 10px; } #activity span { font-weight: 700; } #activity span:first-child { text-transform: uppercase; } #activity span a { color: #5085b6; text-decoration: none; } #activity span span { color: #ff7900; } #activity span .underline { text-decoration: underline; } .attach { clear: both; display: table; font-family: Arial; font-size: 12px; padding: 10px 0; width: 400px; } .attach div a { text-decoration: none; } .attach img { border: none; padding-right: 5px; } .attach label { display: block; margin-bottom: 5px; } .attach label a { text-decoration: none; } blockquote { margin: 0 0 0 4px; } .bold { font-family: Arial; font-size: 13px; font-weight: 700; } .bold a { text-decoration: none; } dd.last p a { font-family: Verdana; font-weight: 700; } dd.last p span { margin-right: 10px; font-family: Verdana; font-weight: 700; } dd.last p span.yshortcuts { margin-right: 0; } div.attach-table div div a { text-decoration: none; } div.attach-table { width: 400px;

} div.file-title a, div.file-title a:active, div.file-title a:hover, div.file-title a:visited { text-decoration: none; } div.photo-title a, div.photo-title a:active, div.photo-title a:hover, div.photo-title a:visited { text-decoration: none; } div#ygrp-mlmsg #ygrp-msg p a span.yshortcuts { font-family: Verdana; font-size: 10px; font-weight: normal; } .green { color: #628c2a; } .MsoNormal { margin: 0 0 0 0; } o { font-size: 0; } #photos div { float: left; width: 72px; } #photos div div { border: 1px solid #666666; height: 62px; overflow: hidden; width: 62px; } #photos div label { color: #666666; font-size: 10px; overflow: hidden; text-align: center; white-space: nowrap; width: 64px; } #reco-category { font-size: 77%; } #reco-desc { font-size: 77%; } .replbq { margin: 4px; } #ygrp-actbar div a:first-child { /* border-right: 0px solid #000;*/ margin-right: 2px; padding-right: 5px; } #ygrp-mlmsg { font-size: 13px; font-family: Arial, helvetica,clean, sans-serif; *font-size: small; *font: x-small; } #ygrp-mlmsg table { font-size: inherit; font: 100%; } #ygrp-mlmsg select, input, textarea { font: 99% Arial, Helvetica, clean, sans-serif; } #ygrp-mlmsg pre, code { font:115% monospace; *font-size:100%; } #ygrp-mlmsg * { line-height: 1.22em; } #ygrp-mlmsg #logo { padding-bottom: 10px; } #ygrp-msg p a { font-family: Verdana; } #ygrp-msg p#attach-count span { color: #1E66AE; font-weight: 700; } #ygrp-reco #reco-head { color: #ff7900; font-weight: 700; } #ygrp-reco { margin-bottom: 20px; padding: 0px; } #ygrp-sponsor #ov li a { font-size: 130%; text-decoration: none; } #ygrp-sponsor #ov li { font-size: 77%; list-style-type: square; padding: 6px 0; } #ygrp-sponsor #ov ul { margin: 0; padding: 0 0 0 8px; } #ygrp-text { font-family: Georgia; } #ygrp-text p { margin: 0 0 1em 0; } #ygrp-text tt { font-size: 120%; } #ygrp-vital ul li:last-child { border-right: none !important; } -->

50268. Re: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-26 21:29:24 UTC
From: Tom Maier
Topic: 50228 Message: 50268

I notice that some of the tubes I look at specify "Not for Kenwood". Is there some sort of clearance issue around the tube or its base? Or is there some other issue?

Tom, K3WFN

this msg edited/shortened as it contained already posted material. 73 Joe wb7uqu

50269. Re: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-26 23:24:11 UTC
From: Jan Servaites
Topic: 50228 Message: 50269

Well, its like this:
300v at 200mA plate current; R = 1500 ohms to start with.
Also, as a reminder don't float the screen & grid. I apply voltages to
G1 & G2. Need a resistor in series with the screen.
So far, I use the screen taps on the transformer. I make a voltage
divider on the filament taps (0-12.6) to get the 6.3vac, then I pick off
and connect the grid with 6.3vac. The leads needs to be swapped around
to find the most plate current.
Jan N8CBX

'Louis Wilen' louis.wilen@... [TS-520_820_530_830] wrote:

>
>
> Jan -- What is resistance value of the 2 watt resistor?
>
>
>

50270. Re: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-27 00:42:14 UTC
From: wagstw46@...
Topic: 50228 Message: 50270

Jan:

It doesnt sound to me like you are making a "flash over tester"???

You are making a dynamic load DC tube tester. No different than running the tubes in an old DX-100 or similar transmitter (other than slightly higher plate voltage) with no RF drive prior to installing in your KW hybrid. I am not sure what you are trying to do. I use to run my spares and new purchase 6146 tubes in an old DX-60, but it didnt have same anode voltage so wasnt exactly mirroring same operating conditions as the hybrids. I planned to increase the anode voltage and never got around to it and I realized without rf drive and same rf voltage swing I wasnt really doing anything. Dont want to get into the "cooking or gettering" debate that has been beat to death here. If you want to "cook" it cant hurt that is all I will say.

I soon realized I needed a DC hi-pot and as you note very good for testing air variables and other components. I became familiar with Hi-potting thru my electric power utility career.

Some fellas build these dynamic dc tube testers and install full metering (Plate, Control Grid, Screen Grid) and variable bias voltage,screen grid, and anode voltage so they can run family of curves. Typically they use these test sets for high voltage high power linear tubes so they can subject the tubes to dc operating conditions in something other than their several thousand dollar linear amplifier which they dont want to subject to possible damage from fault currents.

You already have a 6146 "flashover tester". That is the DC hi-pot.

The 6146 tubes in our radios see approx 1600 rf volts peak to peak in service. Assuming 850vdc key down then 850 x .9 x .707 = 541 rms rf volts or 541 x 2.828 = 1530 P-P rf volts swing. So you should DC hi-pot the 6146 finals to a minimum of approx 2kvdc. You do that with a stepped voltage test. In my experience a good 6146 will hold off 2500vdc with no ua leakage current at all.

If the 6146 tube should arc over during hi-potting (anode to beam plates ie cathode) the tube will not be damaged as you are limiting the energy by limiting the current to 50ua to 100ua. Power = E x I so 2500 vdc X 100ua = 0.25 watts. Sometimes after tube breaks down during hi-potting it may not have any leakage current on the 2nd run up. If it does have any leakage on the 2nd run up I dont use them in my rigs and recommend that customers do not.

If you build a "flash over" tester that applies 900vdc to the 6146s you may find some that will arc over and some that will not at that anode voltage. That does not mean that those that did not wont do so in the KW Hybrid with RF drive.

Have fun.

Terry K9YW

50271. Re: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-27 01:04:57 UTC
From: wagstw46@...
Topic: 50228 Message: 50271

I forgot to mention it sounds more like you are building a fault current burner and not a flash over tester.

Kind of a low voltage high current dc hi-pot. The whole idea of testing is to limit the fault current to a safe limit. How will you determine what that level is? Anything above low ua level may cause damage. What value of glitch resistor would you employ? How much fault current can the 6146 tube take without damaging it? Where would you find that information?

What limits the current in the hybrids today (other than correct amperage fast clearing fuse)? It is the 5 ohms of cathode meter shunt resistance and the ESR of the HV power supply. I dont know what the ESR value is but if you say it is 10 ohms then you are only limiting the fault current to approx I = 900/15 or 60 amps. 60 amps is a heck of a lot of current. Again what level of current do you think you can limit it to so the tube is not destroyed by your low voltage high energy test set?

In my protection mod I employ a 10 ohm glitch resistor and I hope that it along with 5 ohms cathode resistors and 10 ohms of transformer Equivalent Series Resistance will give me approx 25 ohms of current limiting. 900/25 = 36 amps. Still a lot of current, but significantly lower than just 5 ohms or 900/5 = 180 amps. 5 ohms of course is not correct as it ignores the transformer ESR.

Again I submit that the DC hi-pot is your "flash over " tester. This test set you are building now if not designed properly will be just a low voltage high current destructive tester. Electrical apparatus repair shops call them fault burners. Used in motor and transformer repair shops to identify the bad winding by revealing where the smoke emits from!

Maybe I dont understand what you are trying to do? That happens to me a lot!

Happy Turkey Day

Terry K9TW

50272. Re: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-27 02:13:00 UTC
From: Jan Servaites
Topic: 50228 Message: 50272

Terry,
Okay, thanks for the info, its very interesting. This is exactly what I really love about the hobby; The thrill of discovery!
I need to study the terminology more so we can discuss this intelligently. I don't know what the phrase _"__dynamic load DC tube tester" _means. Is this how the TV tube testers work? I don't know. I wish I own an old TV tube tester here so I can look at it & understand the theory on how they work.
First off, I'm using AC directly off the transformer and I am hopefully not wanting to do high current testing, so that's why I added a few resistors.
Okay, let me read up on this "dynamic load DC tube tester" stuff. (WOW, sounds cool)
Best Regards & Happy Thanksgiving,
Jan N8CBX

On 11/26/2014 8:04 PM, wagstw46@... [TS-520_820_530_830] wrote:
>
> I forgot to mention it sounds more like you are building a fault
> current burner and not a flash over tester.
>
>
>
>

--
Directly from the N8CBX studio, Kettering OH

50273. Re: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-27 02:32:52 UTC
From: Louis Wilen
Topic: 50228 Message: 50273

Terry,

Based on what you wrote, it sounds like the following steps would be a reasonable procedure to "out" bad tubes that might blow the cathode resistors before installing them in a rig:

1. Connect the DC Hi-Pot tester between the plate and the anode.

2. Set the tester current to 100 uA.

3. Gradually raise the voltage and hold it at 2000 VDC for several seconds. (/How long is enough?/? /How long is too long?/).

4. If the tube doesn't flash, it's probably safe to install the tube in a rig. End of Hi-Pot test.

5. If the flashes, shut off the tester, wait a few seconds, turn the tester back on, then repeat steps 3 to 4.

6. If the tube flashes again, put it in the scrap heap.

Is the above procedure reasonable? Is there any need to supply power to any other elements in the tube during the test?

Louis
W3VVV

On 11/26/2014 07:42 PM, wagstw46@... [TS-520_820_530_830] wrote:
>
> Jan:
>
>
> It doesnt sound to me like you are making a "flash over tester"???
>
> You are making a dynamic load DC tube tester. No different than
> running the tubes in an old DX-100 or similar transmitter (other than
> slightly higher plate voltage) with no RF drive prior to installing in
> your KW hybrid. I am not sure what you are trying to do. I use to run
> my spares and new purchase 6146 tubes in an old DX-60, but it didnt
> have same anode voltage so wasnt exactly mirroring same operating
> conditions as the hybrids. I planned to increase the anode voltage and
> never got around to it and I realized without rf drive and same rf
> voltage swing I wasnt really doing anything. Dont want to get into the
> "cooking or gettering" debate that has been beat to death here. If you
> want to "cook" it cant hurt that is all I will say.
>
> I soon realized I needed a DC hi-pot and as you note very good for

> testing air variables and other components. I became familiar with
> Hi-potting thru my electric power utility career.
>
> Some fellas build these dynamic dc tube testers and install full
> metering (Plate, Control Grid, Screen Grid) and variable bias
> voltage,screen grid, and anode voltage so they can run family of
> curves. Typically they use these test sets for high voltage high
> power linear tubes so they can subject the tubes to dc operating
> conditions in something other than their several thousand dollar
> linear amplifier which they dont want to subject to possible damage
> from fault currents.
>
> You already have a 6146 "flashover tester". That is the DC hi-pot.
>
> The 6146 tubes in our radios see approx 1600 rf volts peak to peak in
> service. Assuming 850vdc key down then 850 x .9 x .707 = 541 rms rf
> volts or 541 x 2.828 = 1530 P-P rf volts swing. So you should DC
> hi-pot the 6146 finals to a minimum of approx 2kvdc. You do that with
> a stepped voltage test. In my experience a good 6146 will hold off
> 2500vdc with no ua leakage current at all.
>
> If the 6146 tube should arc over during hi-potting (anode to beam
> plates ie cathode) the tube will not be damaged as you are limiting
> the energy by limiting the current to 50ua to 100ua. Power = E x I so
> 2500 vdc X 100ua = 0.25 watts. Sometimes after tube breaks down during
> hi-potting it may not have any leakage current on the 2nd run up. If
> it does have any leakage on the 2nd run up I dont use them in my rigs
> and recommend that customers do not.
>
> If you build a "flash over" tester that applies 900vdc to the 6146s
> you may find some that will arc over and some that will not at that
> anode voltage. That does not mean that those that did not wont do so
> in the KW Hybrid with RF drive.
>
> Have fun.
>
> Terry K9YW
>
>

50274. Re: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-27 03:41:00 UTC
From: Bob
Topic: 50267 Message: 50274

Craig or Terry: I didn't see which rig it is for...I've got a TS-830 ...and somewhere a TS-820.
Thanks,
Bob WA2JAJ/4
  From: "Craig Roberts crgrbrts@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com>
To: "TS-520_820_530_830@yahoogroups.com" <TS-520_820_530_830@yahoogroups.com>
Sent: Wednesday, November 26, 2014 5:55 PM
Subject: Re: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

  Like Mark, I can attest to the efficiency of Terry's mod. I installed it in each of my hybrids, one of which suffered a "new" tube flashover event with no harm to the radio whatsoever. I am happy to be relieved of the annoying cathode resistor changing task while using the rig itself as a "tube tester."73,Craig
W3CRR

On November 26, 2014, at 16:18, "Mark Gilger mgilger@brightdsl.net [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

  Louis,
Jan's giving you an incite into a tester for off line testing he's
designing which should help screen out the majority of bad tubes To
be assured that flash over's won't harm your radio if they do in fact
happen once installed, you can install a circuit that Terry, K9TW designed.

I can say it does work as advertised as I've installed it in several
of my problem Hybrids.

http://www.wb4hfn.com/KENWOOD/Articles/Technical_EX-004.pdf

73's,
Mark, WB0IQK

<!--

50275. RE: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-27 04:58:22 UTC
From: fpath fpath
Topic: 50228 Message: 50275

Terry,

Are you saying you're using a single 10 ohm glitch resistor for the Hybrid glictch protection circuit?

73s

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: TS-520_820_530_830@yahoogroups.com
Date: Wed, 26 Nov 2014 17:04:57 -0800
Subject: Re: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

I forgot to mention it sounds more like you are building a fault current burner and not a flash over tester.

Kind of a low voltage high current dc hi-pot. The whole idea of testing is to limit the fault current to a safe limit. How will you determine what that level is? Anything above low ua level may cause damage. What value of glitch resistor would you employ? How much fault current can the 6146 tube take without damaging it? Where would you find that information?

What limits the current in the hybrids today (other than correct amperage fast clearing fuse)? It is the 5 ohms of cathode meter shunt resistance and the ESR of the HV power supply. I dont know what the ESR value is but if you say it is 10 ohms then you are only limiting the fault current to approx I = 900/15 or 60 amps. 60 amps is a heck of a lot of current. Again what level of current do you think you can limit it to so the tube is not destroyed by your low voltage high energy test set?

In my protection mod I employ a 10 ohm glitch resistor and I hope that it along with 5 ohms cathode resistors and 10 ohms of transformer Equivalent Series Resistance will give me approx 25 ohms of current limiting. 900/25 = 36 amps. Still a lot of current, but significantly lower than just 5 ohms or 900/5 = 180 amps. 5 ohms of course is not correct as it ignores the transformer ESR.

Again I submit that the DC hi-pot is your "flash over " tester. This test set you are building now if not designed properly will be just a low voltage high current destructive tester. Electrical apparatus repair shops call them fault burners. Used in motor and transformer repair shops to identify the bad winding by revealing where the smoke emits from!

Maybe I dont understand what you are trying to do? That happens to me a lot!

Happy Turkey Day

Terry K9TW

50276. Re: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-27 05:13:26 UTC
From: Craig Roberts
Topic: 50267 Message: 50276

The mod's the same for TS-830 and TS-530. I'm not familiar with the 520.

73m

Craig
W3CRR
>

50277. Re: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-27 12:10:33 UTC
From: wagstw46@...
Topic: 50228 Message: 50277

Jan:

There is an AC tester in the files section for a 6146 tube. It essentially configures the 6146 tube as a Diode. Causes pulsating dc at the anode and is measured on a ma meter. It test the tube at much higher current than a conventional mutual conductance tube tester would do. More of an emission tester.

I agee that DC-hipot test tells you nothing about the tubes cathode emission. Can only find that out by placing in service or with a tester like in the files or such as you are building.

I thought primary concern was to screen out tubes that would arc over due to either 900vdc on the anode or 1600 volts rf swing. This is where damage occurs beginning with popping your cathode meter shunt resistors not to mention the stress on the HV caps, rectifiers, and power transformer dumping all that energy in microseconds.

I agee that a "dynamic load" tester would be nice and that is why I use to run my 6146 tubes in my old DX-60. Didnt care if I hurt it. I never found very many that were down on emission. Some folks would toss them if couldnt get 100 watts out and others run with 80 watts or so for many years.

I probably dont understand your objective and therefore should not have questioned what you are doing.

When I saw "flash over" tester being mentioned I immediately went to DC hi-pot as that is its function.

Terry

50278. RE: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-27 12:20:43 UTC
From: wagstw46@...
Topic: 50228 Message: 50278

Hi Dave:

No I am using two series connected Ohmite Type OY. Either 4.7 ohm or 5.6 ohm is fine. Could probably go a little higher without causing too much IR drop. I just didnt have any values higher and you can see by the math what just adding 10 ohms in the path in series with the 5 ohm cathode resistor and the transformer ESR does to the fault current.

You do need to use surge or pulse rated resistors. I would not use a sand power resistor. Really no reason to use a series string of resistors at our anode voltage. That is done for higher voltages (3kv to 4kv for example) so dont track over just one current limiting resistor. Reason I am using two is I couldnt find a single 10 ohm pulse rated resistor. I dont think Ohmite makes them in OY design?

Of course two schools of thought about surge resistors in amplifier plate supplies. Some want the surge resistor to be sacrificial and explode (they incase them to retain the shards). I dont want that on a Tetrode. Never want anode supply to open while SG is energized. A good way to exceed its dissipation and destroy the tube (As Mike and I have mentioned here in the past).

Terry

50279. Re: Ts-520 Surge under Final Area.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-27 06:22:21 UTC
From: kc8jhy@...
Topic: 50226 Message: 50279

Radio finely repaired. Changed coax between transmitter and tuner. I never thought to suspect that. 40 and 80 meters are operating again too.

Thank's for helping me out Mike.

73, Tom

50280. Re: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-27 12:46:11 UTC
From: wagstw46@...
Topic: 50267 Message: 50280

Same for all Hybrids.

Basically same anode supply and same cathode circuit and 6146 arc over has same negative effect (cathode resistors pop open) and if unlucky blown panel meter.

If you do only one thing I would put the diode string across the cathode resistors. This will limit the IR drop to no more than approx 2vdc.

KW attempted to fix the problem with blown panel meters with addition of R10 to the TS530/TS830 rigs. It is in parallel with the cathode resistors and when they pop it prevents the cathode from opening and rising toward SG voltage. That is big problem in the other models as open cathode will rise quickly to 125vdc or more and when you flip meter switch back to Ip position work the math of what current will flow thru the meter multiplier resistor and the meter movement. It is heck of a lot more than a 500ua movement will like to see. So you can experience a double hit. The arc over event and maybe 2nd hit when try to load rig again and flip meter from RF position back to IP.

Next time you pop cathode resistors on your TS520/TS820 series before replacing the resistors place meter off of the Ip position and then power radio and measure dc voltage from cathode pins of 6146 tube sockets to ground and watch what happens.

Depending on what production run 530/830 you have you can find R10 as 4.7k, 5.6k and 6.8k ohm. KW trying to pick a value that will hold cathode near grd potential while not affecting the accuracy of the IP reading too much. The higher the value the less impact on the displayed IP reading (simple ohms law for parallel resistors). In either case the accuracy is not effected much more than a needles width.

Anyone who was around in the day and remembers cathode keying on their novice transmitter knows what potential will be on your J38!

Terry
K9TW

50281. Re: [TS-520_820_530_830] Re: Ts-520 Surge under Final Area.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-27 12:46:16 UTC
From: Mike W5RKL
Topic: 50226 Message: 50281

You're welcome Tom.

A band coax jumper between the transmitter and tuner should also show up
on other band as well.

73
Mike W5RKL
www.w5rkl.com

This email has been checked for viruses by Avast antivirus software.
http://www.avast.com

50282. RE: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-27 12:47:36 UTC
From: fpath fpath
Topic: 50228 Message: 50282

Hi Terry,

I wasnt sure if you had changed the design from two resistors to 1x. Ohmite does do 10ohm, in OY series, as I have 3 that I am using for another tube project that has a flaw in the design, it needs surge\glitch protection and am using 1x 10 ohm OY series resistor and 0.5amp fuse, to prevent damage to the HV and filament transformers and two 5 ohm OY series resistors and 1 amp fuse on SG. Just wanted to update my notes if you had change.

Happy Thanks Giving day to you and the family

Take care and keep warm

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: TS-520_820_530_830@yahoogroups.com
Date: Thu, 27 Nov 2014 04:20:43 -0800
Subject: RE: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Hi Dave:

No I am using two series connected Ohmite Type OY. Either 4.7 ohm or 5.6 ohm is fine. Could probably go a little higher without causing too much IR drop. I just didnt have any values higher and you can see by the math what just adding 10 ohms in the path in series with the 5 ohm cathode resistor and the transformer ESR does to the fault current.

You do need to use surge or pulse rated resistors. I would not use a sand power resistor. Really no reason to use a series string of resistors at our anode voltage. That is done for higher voltages (3kv to 4kv for example) so dont track over just one current limiting resistor. Reason I am using two is I couldnt find a single 10 ohm pulse rated resistor. I dont think Ohmite makes them in OY design?

Of course two schools of thought about surge resistors in amplifier plate supplies. Some want the surge resistor to be sacrificial and explode (they incase them to retain the shards). I dont want that on a Tetrode. Never want anode supply to open while SG is energized. A good way to exceed its dissipation and destroy the tube (As Mike and I have mentioned here in the past).

Terry

50283. Re: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-27 13:04:18 UTC
From: wagstw46@...
Topic: 50228 Message: 50283

Louis

Eimac has a Hi-pot bulletin that details the procedure. Most important in my mind is to test from anode to cathode pins. Some short all the other elements together but not necessary on a 6146.

Some also test between Control Grid and Cathode. If you do this need to lower the test voltage level as it will break down at much lower level. May even see some glow in dark room with this test.

Ask yourself where is the shortest arc path? It is from Anode to Beam forming plates which is electrically the cathode. That is what occurs in most arc overs. How do I know? What fails? If tube arced to the Control grids (and it does on very rare occaisons. I have seen two or three cases) will see extreme damage to the -C path, bias voltage adjust pot, ALC transistor, molex connectors, back to -C supply return. Basically anything in the FG line including RF choke on the final board will likely be damaged. KW tried to fix this by adding a MOV to the FG line on the TS530 but never added it to the 830. I dont think it is necessary.

You have no control over the leakage current. It is limited by the Hi-pot design. Can see mine on my website at http://www.K9TW.com http://www.K9TW.com.

I short my test leads and bring up the variac until the panel meter reads 50ua. That proves tester is working and I am really hi-potting and not kidding myself.

I back off the variac and the dc voltage on the filter caps quickly decays. I turn off the hi-pot and connect plus alligator lead to anode cap and negative lead to Pin 1. I turn set on and raise voltage up to approx 1kv dc. Let is sit a second. I usually go up in about 500vdc steps while watching the ua panel meter. Stop at 1500vdc, then go on up to 2000vdc and stop. A bad tube the current will start to come off zero around 1000vdc and may start to bounce around or may just keep climbing from there. As I said in my experience a good tube will hold off 2500vdc (no ua leakage current at all).

Some people then shut down and reverse the positive and negative high voltage leads and repeat the test.

On high power tubes they do this to "burn off" conductive wiskers inside the envelope that are near bridging the gap between elements. We dont have any of that in the old 6146 tubes as they had near "clean room" manufacturing process.

Terry K9TW

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50284. RE: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-27 14:28:14 UTC
From: wagstw46@...
Topic: 50228 Message: 50284

Dave:

I would be very nervous about fusing the Anode and SG leads. Very difficult to perform fuse "co-ordination" and get it to behave per the calcs. Not sure how reliable the fuse mfg data sheets would be regards to fault clearing times?

Terry K9TW

50285. RE: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-27 14:56:43 UTC
From: wagstw46@...
Topic: 50228 Message: 50285

Dave:

Last one I promise!

http://dpmc.unige.ch/dubus/9003-5.pdf http://dpmc.unige.ch/dubus/9003-5.pdf

Terry K9TW

50286. RE: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-27 15:00:50 UTC
From: wagstw46@...
Topic: 50228 Message: 50286

Dave:

I forgot to include what Ian White has to say about fusing the SG. See page 6. I know that folks use fuses and block diodes in their homebrew Tetrode amps, but I think he presents good case why not good idea.

I did include MOV flashover protection for the Screen Grids in my protection mod and have installed in my two personal TS830s rigs, but most recently I have just been installing the diode string across the cathode resistors for the customers who want it.

http://www.muenster.de/~dl5qe/qexartic.pdf http://www.muenster.de/~dl5qe/qexartic.pdf

Terry K9TW

50287. Thank You

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-27 16:43:21 UTC
From: scoutermike@...
Topic: 3139 Message: 50287

I'd just like to take the time this morning to thank all of you for this fine reflector. Over the years I've come to rely on my daily dose of sanity that you all bring. I think this is the best behaved and most courteous of the groups I've belonged to. Good moderators and level heads not to mention the excellent and expert technical advice make this a part of my day.

God Bless and keep you all!

Vy 73,
Mike
K8SYN

50288. Blog on troubleshooting/repairing TS-520 low transmitter power output problem

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-27 14:08:43 UTC
From: jbdkz@...
Topic: 50288 Message: 50288

I created a blog on my adventures in troubleshooting and repairing a low transmitter power output problem with my TS-520. This information may prove useful to others.

The information in this blog will also apply to other Kenwood Hybrids as well.

John
KD8SCX

Kenwood TS-520 SSB Transceiver Repair
http://jbdkz.hubpages.com/hub/Kenwood-TS-520-SSB-Transceiver-Repair

http://jbdkz.hubpages.com/hub/Kenwood-TS-520-SSB-Transceiver-Repair

Kenwood TS-520 SSB Transceiver Repair
http://jbdkz.hubpages.com/hub/Kenwood-TS-520-SSB-Transceiver-Repair Diagnose and repair low transmitter power output problems with your Kenwood TS-520 rig!

View on jbdkz.hubpages.com
http://jbdkz.hubpages.com/hub/Kenwood-TS-520-SSB-Transceiver-Repair
Preview by Yahoo

50289. Re: [TS-520_820_530_830] Re: Ts-520 Surge under Final Area.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-27 21:03:07 UTC
From: roberteleazer@...
Topic: 50226 Message: 50289

I am using the 68 mfd 500V caps because I was able to buy 15 of them at less cost than the two 100 mfd 500V caps originally installed in the TS-520. That gives me eleven 68 mfd 500V caps "left over" to use on my other boatanchor projects - for example, an HP-23 power supply where I have recapped one old electrolytic (it blew up when I first powered it up) and where I am pretty sure I will one day have to recap the others when I get back to working on my HW-100.

Now let's do the math. Two 68 mfd caps in parallel give you 136 mfd. Two more give you another 136 mfd, which is more than the two 100 mfd 500V caps originally in the TS-520 give you.

People who are selling two 150 mfd 500V caps to replace the original 100 mfd caps claim that the greater capacitance gives you increased HV voltage over the original design. I am unable to determine if this is in fact true, and that is what I was asking.

Thanks, and Happy Thanksgiving!

Robert
WB5WSV

50290. Re: [TS-520_820_530_830] Re: Ts-520 Surge under Final Area.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-28 01:51:40 UTC
From: wagstw46@...
Topic: 50226 Message: 50290

I dont think it is so much about increasing the full load voltage as it is decreasing the ripple voltage. In my experience it wont improve the regulation under load.

Rough rule of thumb is double the capacitance value and cut the ripple voltage in half.

For voltage multiplier circuits you can use couple of formulas. Here is one to solve for the ripple and another to solve for the capacitance needed in the doubler circuit. You will notice they dont produce exact same results but I think close enough for back of envelope calcs.

Vrip = I x (Nsquared + N/2) / 8 x F x C Where I = load current, N= number of stages (we have two), F = freq in hz, C = capacitance

So with a 100uf capacitance Vrip = .250 x (2x2 + 2/2) / 8 x 120 x 100uf = 19.5v p-p or approx 20 volts ripple

Another formula to find the capacitance needed for a given ripple is:

With 19.5v ripple on 800vdc then C= 0.8 x I / Vrip x F

C= 0.8 x .250/ 19.5 x 120 = .2/2340 = .0000854 farads = 85.4uf

So you can see we get something between 85uf and 100uf to produce 19.5v ripple on 800vdc at 250ma load.

If you raise the 85uf capacitance to approx 170uf you will reduce the ripple to approx 9.7v p-p.

The ripple level that we have on our 900vdc anode supply seems high but it doesnt cause any presence of hum on our on air signals.

Maybe the EE design members jump in here and can shed some lite on the merits and maybe drawbacks of increasing the capacitance of the voltage doubler filter caps. Maybe surge current begins to become an issue?

I have been installing 150uf units for some time and have seen no ill effects and no negative feedback from the owners. I like original config and hate it when I get rigs with a tall metal can in one position or piece of perfboard with capacitor combos ty-wrapped or glued in place on them. If I was marooned on an island then anything would go. We all have differing amounts of discretionary income and free to chose how we spend it.

I have a 100:1 scope probe so maybe will get brave and put it on the top of the plate choke and measure ripple and try paralleling up additional capacitors. If you see a mushroom cloud you know I messed up!

Terry K9TW

50291. RE: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-28 04:18:32 UTC
From: fpath fpath
Topic: 50228 Message: 50291

Terry,

I was initially worried about that as well. Only thing that has caused me to investigate is highly repected tube amplifier guru's gave me a very well defined explanation and a heap of photos to show what happened with and without. The tubes at $US400 each is not something I want to destroy in a hurry hihi, but am still very cautious and still researching as well.

Have had a TL922 on the bench which had exactly that, both Anode and SG were fused. Still didnt helpthe band switch much when hot switching, but then again can lead a horse to water

73s

DAve

To: TS-520_820_530_830@yahoogroups.com
From: TS-520_820_530_830@yahoogroups.com
Date: Thu, 27 Nov 2014 06:28:14 -0800
Subject: RE: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Dave:

I would be very nervous about fusing the Anode and SG leads. Very difficult to perform fuse "co-ordination" and get it to behave per the calcs. Not sure how reliable the fuse mfg data sheets would be regards to fault clearing times?

Terry K9TW

50292. RE: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-28 04:20:23 UTC
From: fpath fpath
Topic: 50228 Message: 50292

Terry,

Very nice write up, now going to study it and pick through it like a chicken.

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: TS-520_820_530_830@yahoogroups.com
Date: Thu, 27 Nov 2014 06:56:43 -0800
Subject: RE: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Dave:

Last one I promise!

http://dpmc.unige.ch/dubus/9003-5.pdf

Terry K9TW

50293. RE: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-28 04:22:49 UTC
From: fpath fpath
Topic: 50228 Message: 50293

Terry,

As you know I cant get Ohmite in VK, and have to mortgage the house to have them delivered, and that is what I have done on all 5 hybirds what you are doing, still would prefer to do the whole

73s

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: TS-520_820_530_830@yahoogroups.com
Date: Thu, 27 Nov 2014 07:00:50 -0800
Subject: RE: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Dave:

I forgot to include what Ian White has to say about fusing the SG. See page 6. I know that folks use fuses and block diodes in their homebrew Tetrode amps, but I think he presents good case why not good idea.

I did include MOV flashover protection for the Screen Grids in my protection mod and have installed in my two personal TS830s rigs, but most recently I have just been installing the diode string across the cathode resistors for the customers who want it.

http://www.muenster.de/~dl5qe/qexartic.pdf

Terry K9TW

50294. TS-520 Stopped Transmitting

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-28 02:13:23 UTC
From: dllewiszz@...
Topic: 50294 Message: 50294

My plain TS-520 that I use daily suddenly stopped transmitting. My HV is good but there's no drive, no Bias current, and no deflection on RF, ALC, or my external meter. Tubes are all warm. I can just barely hear my oscillator on another receiver, and can hear my voice audio in the noise. A few years ago I had a drive problem but my signal was quite strong on the stand-alone receiver (though there was no RF output to the antenna). This time it is much much weaker on the receiver. The TS-520 still receives great, and the weak xmit signal is on frequency.

What are the common usual suspects I should look for first? I haven't made voltage or signal measurements/traces yet. All guidance greatly appreciated!

73,
WA4FXT

50295. Re: [TS-520_820_530_830] Re: Ts-520 Surge under Final Area.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-28 04:49:16 UTC
From: W5RKL
Topic: 50226 Message: 50295

Hi Robert,

I personally wouldn't consider doing that since there are replacements available, even though you have quite a few 68ufd 500VDC capacitors on hand. However, having said that, I understand that it's your TS-520 and your right to use what ever you think is necessary to replace the HV filter capacitors. Good luck and have fun.

73
Mike W5RKL
www.w5rkl.com

This email has been checked for viruses by Avast antivirus software.
http://www.avast.com

50296. Re: TS-520 Stopped Transmitting

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-28 11:06:29 UTC
From: wagstw46@...
Topic: 50294 Message: 50296

Is the cutoff bias voltage on Pin 5 at 6146 finals tube sockets switching to operating bias level when you flip to Send?

Should go from approx -100vdc to -55 vdc.

Weak carrier osc has nothing to do with not being able to set zero signal plate current to 60ma.

Terry K9TW

50297. RE: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-28 14:22:56 UTC
From: wagstw46@...
Topic: 50228 Message: 50297

Dave

I didnt remember that you could not get the Ohmite OYs in VK land. If you told me that in the past sorry it went over my head. I would have ordered and sent them to you. Anytime you have parts need please contact me and I will see if I can help you.

Terry K9TW

50298. Re: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-28 14:32:47 UTC
From: wagstw46@...
Topic: 50228 Message: 50298

Jan

See April 2012 for a tester for 3-500Z tubes. It is essentially a tester that has stepped anode and filament voltage. It is not a dynamic load tester. It reveals shorts and gas and allows gettering of the tube. It has separate filament and anode supply switches and plate current meter.

Here is an example of what I was talking about:

https://www.youtube.com/watch?v=Q6ZS83F0-uI https://www.youtube.com/watch?v=Q6ZS83F0-uI

Another thing to research is Pulse Testing of high power vacuum tubes. There are testers that use a high power FET to pulse the grid.

Have fun

Terry K9TW

50299. Re: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-28 14:54:09 UTC
From: Mark Gilger
Topic: 50228 Message: 50299

Nice tester.
Mark, WB0IQK

50300. Re: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-28 15:11:51 UTC
From: Jan Servaites
Topic: 50228 Message: 50300

Terry,
I have that QST issue and read the article many times to understand the issues that lead up to their design, and some things don't make sense to me. For one, if they are designing it to find flash overs in 3-500z, why do they build a huge capacitor filter, just like they are building one for an amp? Also, the grid circuit is strange to me, again they RF ground the grid with caps, again like building an amp? And then they place a "bias resistor" (?) on the filament center tap lead to ground, so any flash overs in the tube go right through the filament transformer (to take it out too?)
The 211 tube tester (don't know what a 211 is) features is some of what I wanted in my power amp tube tester and to include the 6146 tester too. Very interesting.
I found some highly regarded books on tube testers at Amazon, so I have them on order and I'll read them when they get here. So, I put the tube tester aside for now, and working on my Yaesu 901
Have you seen KF8OD's video on his hipot testing? Interesting.
https://www.youtube.com/watch?v=ZRkp-CUsPQ4

I got to run,
Jan N8CBX

>
>

50301. Re: TS-520 Stopped Transmitting

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-28 14:51:45 UTC
From: dllewiszz@...
Topic: 50294 Message: 50301

Thanks, Terry. Yes, the voltage drops from about 95V to approx 60V when I switch to xmit.

remember to properly sign your post/msgs according to group policy...name & call(if any)
73 Joe
wb7uqu
Group co-owner

50302. Re: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-28 17:39:38 UTC
From: Jan Servaites
Topic: 50228 Message: 50302

Forgot to mention their filament PS is strange too. Why wouldn't one
just connect another variac to the filament transformer? So, instead of
a using a $50 variac, they use a voltage drop through the wire coils?
Also, they are not using a true RMS voltmeter to measure and set the
filament voltage for each tube. Just follow Tom Rouch's article on this
very important point:
http://www.w8ji.com/filament_voltage_life.htm
He just tears apart that guy's article in QST (I'm surprised QST
actually published it) about extending the filament life of 3-500z tubes.
(I wonder who are the technical editors for QST, if any?)
Jan N8CBX

Jan Servaites jservaites@... [TS-520_820_530_830] wrote:

>
>
> Terry,
> I have that QST issue and read the article many times to understand
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> sense to me.
>
>
> <https://groups.yahoo.com/neo;_ylc=X3oDMTJkaGU4bXJuBF9TAzk3NDc2NTkwBGdycElkAzc1MjUwMjEEZ
3Jwc3BJZAMxNzA1MDYzMTA4BHNlYwNmdHIEc2xrA2dmcARzdGltZQMxNDE3MTg3NTE4>
>
> . Privacy
> <https://info.yahoo.com/privacy/us/yahoo/groups/details.html> .
> Unsubscribe
> <mailto:TS-520_820_530_830-unsubscribe@yahoogroups.com?subject=Unsubscribe>
> . Terms of Use <https://info.yahoo.com/legal/us/yahoo/utos/terms/>
> .
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50303. Re: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-28 17:51:29 UTC
From: W5RKL
Topic: 50228 Message: 50303

Jan,

A "211" is a Triode. I found the pdf data sheet rather quickly using the simple search phrase "211 vacuum tube" plugged into Google and it returned the following link:

www.tec-sol.com/products/*tubes*/kr/kr_*211*.pdf

73
Mike W5RKL
www.w5rkl.com

This email has been checked for viruses by Avast antivirus software.
http://www.avast.com

50304. Re: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-28 18:18:01 UTC
From: wagstw46@...
Topic: 50228 Message: 50304

Jan:

By means of this video and the April 2012 QST article I am trying to show you the difference between a "Dynamic Load" tube tester and a tester that just energizes elements and "Cooks" the tube. It seemed to me that you and others were going toward the latter design.

I am not suggesting that the 211 tester in this video will test your 6146 tetrode, but a similar design with a screen grid supply is what you would need. Very easy to build in a transconductance feature to this kind of tester. Just place a 10 ohm or 100 ohm precision resistor in series with the anode lead and measure the IR drop across it with the control grid modulated. Inject a clean 1v P-P signal on the control grid and measure the IR drop across the precision series resistor. Now calculate the current with I=E/R.

As our tubes age they have less current available from the cathode. So you test a known good 6146 that has full output and lets say you calculate 10ma with 1v p-p on the control grid and you test another and it has 7ma you know it has lower "transconductance".

You could also build a dummy plate load with say a 25k ohm 100 watt resistor (maybe in oil bath).

Again all of this has to weighed against buying an old DX-100 or Viking II. With either of these transmitters you can dc test and apply RF drive. Just takes up a lot of room on the bench in the shop.

The latest testing of high power RF transmitting tubes that I am aware of is "Pulse Testing". This is done with a IGBT device pulsing the control grid. It is nice as needs no tuned input or output circuits. I have seen a couple of articles on how to build one of these, but cant put finger on it right now.

I am sorry for sticking my nose in. I just didnt understand why your DC hi-pot wouldnt be your tester of choice for a 6146 and then if it passes that testing put the thing in the KW rig and drive it with RF and see what its output is. Unless you want to run family of curves then you do need to build something like the 211 tester.

Terry K9TW

50305. Re: TS-520 Stopped Transmitting

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-28 18:28:58 UTC
From: wagstw46@...
Topic: 50294 Message: 50305

Ok then you are saying that you cannot set the resting plate current to 60ma.

Have you checked the two 10 ohm cathode resistors on the Final board?

Easy to access and measure with rig down powered and unplugged from the 120vac recept.

Terry K9TW

50306. Re: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-28 18:38:05 UTC
From: wagstw46@...
Topic: 50228 Message: 50306

Jan:

Take a deep breath.

I am not a proponent of the 2012 QST article tester. I dont own any 3-500Z tubes. Again, I was trying to show you the difference between a "dynamic" tube tester for RF power tubes (a big boys version of a Jackson/Hickok which the 211 tester is) and a "cooker" type and a DC hi-pot.

I suggest you disregard my post and go back to your design that you started.

If it were me I would write down on paper what my testing objectives are and then see if the design you started will accomplish that. Of course when you get done might want to sit it next to a transmitter and see if you havent re-invented the wheel!

As you stated this is fun part of the hobby and shouldnt let anyone discourage you from trying your ideas.

I am moving on and no further raining on your parade!

Have fun

Terry K9TW

---In TS-520_820_530_830@yahoogroups.com, <jservaites@...> wrote :

Forgot to mention their filament PS is strange too. Why wouldn't one just connect another variac to the filament transformer? So, instead of a using a $50 variac, they use a voltage drop through the wire coils? Also, they are not using a true RMS voltmeter to measure and set the filament voltage for each tube. Just follow Tom Rouch's article on this very important point:
http://www.w8ji.com/filament_voltage_life.htm
http://www.w8ji.com/filament_voltage_life.htm
He just tears apart that guy's article in QST (I'm surprised QST actually published it) about extending the filament life of 3-500z tubes.
(I wonder who are the technical editors for QST, if any?)
Jan N8CBX

Jan Servaites jservaites@... mailto:jservaites@... [TS-520_820_530_830] wrote:
Terry,
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https://groups.yahoo.com/neo;_ylc=X3oDMTJkaGU4bXJuBF9TAzk3NDc2NTkwBGdycElkAzc1MjUwMjEEZ3Jwc3BJZAMxNzA1MDYzMTA4BHNlYwNmdHIEc2xrA2dmcARzdGltZQMxNDE3MTg3NTE4 • Privacy
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mailto:TS-520_820_530_830-unsubscribe@yahoogroups.com?subject=Unsubscribe • Terms of Use
https://info.yahoo.com/legal/us/yahoo/utos/terms/

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50307. Re: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-28 18:57:20 UTC
From: Jan Servaites
Topic: 50228 Message: 50307

Terry,
I have tested many of my 6146s in the hipot tester, but how does one make any sense out of the leakage current. They all seem to follow the same leakage response vs high potential . I don't think I remember any of them exhibiting a flash over. So, I wonder where does one draw the line on what's best, good and bad.....using the hipot tester?
So, I went on to build the emission tester, and test the tube as a diode. There, I can see a difference between known 6146s that put out the highest power (the "best" grade) and just average ones (most of the tubes) and I must say, dead ones (I found one in the emision tester).
One interesting test was a hipot test on a new Russian GS-35B tube of mine and I ran the potential way up, and I could hardly see maybe 1-2uA of leakage. I thought, wow, its so low it has to be very good.
I did some tests on my collection of (used) 4CX1500Bs and they exhibited some leakage (I don't have the numbers here in front of me) and was puzzled again about what is the best/good/bad?
Does it seem that I need to conduct a lot of measurements to build up some statistics on a bunch of tubes?
Jan N8CBX

wagstw46@... [TS-520_820_530_830] wrote:

>
>
> I just didnt understand why your DC hi-pot wouldnt be your tester of
> choice for a 6146
>
> .
>
>

50308. Re: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-28 19:14:25 UTC
From: Jan Servaites
Topic: 50228 Message: 50308

HA....Okay. But I really do appreciate the discussions Terry, thanks!
By the way, if you guys haven't seen the 6146 "emission" tester in QST,
here it is:
http://janswerks.com/n8cbx/QST_6146_tester.jpg
I have re-configured mine to be like his, but I didn't get the same
numbers as he was. I was getting about twice the amount of plate
current. I used the old TS820 transformer on a variac to get the 250vac
plate voltage.
Jan N8CBX

wagstw46@... [TS-520_820_530_830] wrote:

>
>
> Jan:
>
>
> Take a deep breath.
>
>
>

50309. Re: TS-520 Stopped Transmitting

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-28 18:50:58 UTC
From: dllewiszz@...
Topic: 50294 Message: 50309

Yes - the 10 ohm cathode resistors on the finals (Pin 1) are both good. No measurable resting plate current.

Dave, WA4FXT

50310. Hello! Newbie Hybrid Owner - TS-830S, No Modulation

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-28 18:58:44 UTC
From: viragoxv@...
Topic: 50310 Message: 50310

Hello from a newbie hybrid owner!

K3MG turned me on to this group, and I wanted to say "Hello", and ask a question...

The TS-830S that I recent decided to put back on the air was operating "OK"; that meaning within my very limited knowledge of the radio's functionality. Signal reports were fine, even though I may not have been outputting at full power because of my confusion regarding how to tune the radio properly.

It was suggested I check the resistors on the RF board before going too far with operating the radio. I dutifully removed the covers, the high voltage cover, assured the caps were discharged, removed the two power tubes, removed the 7 screws holding in the RF board, loosened the two wound leads closest to the radio's side, and leaned the RF board down to inspect the resistors. Seeing no signs of burnt resistors, I rewound/replaced the two leads and secured the board.

After doing this work, I tightened a loose Band Switch coupling set screw, and sprayed the Band Switch discs (scratchiness hear when changing bands) and AF/RF pots (volume would drop off by about half sometimes, recovering when the AF knob was twisted back and forth). I reassembled the radio.

Testing found the Band Switch worked fine, with no looseness or scratchy sound. The volume drop-off was greatly improved.

Unfortunately, I had no modulation when I tried to transmit on 40M. I checked the tuning and it seems fine. When the MODE switch is in TUNE or one of the CW modes, I had output when I flipped the REC/SEND switch to SEND. Similarly, when I pressed the PTT switch on the MIC (Shure Model 444) when the radio was in a CW mode, I had output. Likewise, when in LSB mode, I hear the TX relay move when I press the Mic's PTT switch.

Though it's possible something went wrong in the Mic JUST when I did the "repairs", the consequence seems a little "much" for me; I think I screwed up something inside.

Thus far I've assured the radio was set-up properly; the rear SG switch is on ON; I went back in and soldered the RF board leads I had only rewrapped; inspected the Mic wiring and Mic socket's radio side connections; and inspected everywhere I had my darn fat fingers! Still no modulation.....

I removed the top/bottom covers again and reinspected, but nothing seems out of place. My course of action at this point is to try another mic if I can borrow one, and if that doesn't work, send the radio to someone who's better equipped than this partially color-blind, fat fingered Monkey....no offense to Monkeys!

Any thoughts gang? Thanks in advance! Mike, N3QIG

50311. Re: TS-520 Stopped Transmitting

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-28 21:31:05 UTC
From: wagstw46@...
Topic: 50294 Message: 50311

OK then need to measure the screen grid voltage at the 6146 tube sockets Pin 3 with rig flipped to Send and lastly measure the Anode voltage at the top of the RF plate choke inside the PA cage. Your owners instruction manual has a table that contains the tube voltages in Rx and Tx modes and you will see the SG voltages listed.
You will need a VTVM or DMM with good condition test leads and a 1000vdc range to measure the plate voltage. This must be done safely.

One way is to connect negative lead of meter to chassis ground and use one hand to apply the red probe tip to top of the plate choke while observing the meter. Actually I would measure at the the suppressor lead at the end nearest the phenolic anode cap as on rare occaisions the solder is sublimated at top of the choke and best to make sure have 900vdc at the end of the suppressors.

The other way is with rig turned off connect the voltmeter black lead to chassis ground and connect the red lead to one of the parasitic suppressor leads (if you dont have an alligator probe tip adapter you will need to use a alligator jumper test lead or mini-grabber test lead and must make sure it is securely connected on the suppressor lead and the meter red probe tip. Dont want it to pop off.

The junction of the red probe tip and the alligator lead must be well in the clear and perhaps covered with insulating material so you dont accidently forget it is there on the bench and brush against it, place meter on 1000vdc range, and then make sure you are completely in the clear and turn on the radio. No need to flip to Send should see close to 900vdc on the meter. Immediately shut radio off and do not remove jumper leads from top of choke or off the red meter probe until HV filter capacitors have bled off.

You have said that the filaments are lit and you have good operating bias and the cathode resistors are good. Only thing you then need for plate current is SG voltage and Anode voltage when you flip to Send. Of course you also need a good meter and meter circuit and you have said you see no RF output on an external wattmeter so it is most likely that the meter circuit is good. If you report back good SG and anode voltage then I will ask you to recheck the heaters and then can go on to look at the meter circuit.

If you have bad HV filter caps this could be the root cause. You can check the 900vdc by placing rigs panel meter in HV position with rig in LSB or USB and mic gain turned down and flip to send. The problem with this test is it tells you that you have 900vdc at the HV caps but not if you have it at the parasitic suppressors. If you want to do this test first go ahead. If it shows nothing or 450vdc then no need to test at top of the plate choke with your voltmeter as you have bad HV filter caps. Sometimes can tell by looking at the rupture vents but really need to ESR them.

Terry K9TW

50312. TS-830 SN-3010431 no power out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-28 21:22:55 UTC
From: ronaldburnor@...
Topic: 50312 Message: 50312

Hi group: Recently purchased this KW on e-bay. Rig was listed as receiving-xnmt not tested. As always, removed the covers to see what I could see. What I saw was the cleanest TS-830 I have seen. I mean there was not a speck of dust anywhere on the interior of this rig. Opened the final cage and everything looked the same as far as clean . The first thing that jumped out at me was the 6146b's had been replaced with w's. After powering up I did get some reception and after rotating the band switch a few times got good reception on 40m. Trying to tune up in tune mode I got no alc initialy, but after a few minutes did get some alc. I am going to proceed with testing and don't want to take up any more time on this post. Does any one have any idea how old this rig might be? Thanks guys Ron KD0KPM

50313. Re: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-28 22:34:02 UTC
From: wagstw46@...
Topic: 50228 Message: 50313

Jan:

As I have mentioned couple of times a "good" 6146 in my experience will hold off 2500vdc (anode to cathode). That means ZERO ua leakage current. None at all.

Many will hold off 2000vdc with ZERO ua leakage and probably OK to use those. I prefer to have a little more head room especially if I have no arc over protection in the radio which no original KW radio has and many folks dont want to install the mod.

You should most commonly see one of two ua indications that tell you tube is arcing over or breaking down (at these voltage levels wont see any dazzling arcing display inside the envelope with perhaps exception of in a very dark room?). A. Meter will start to flicker at one of the voltage steps coming up. It may bounce up scale and go back to zero at the same step voltage and if it does it just arced over. OK to continue on up. B. At one of the voltage steps the meter will slowly start to come off zero and keep going up as you raise voltage or may level off at some leakage level like 20ua or so and wont go any higher as you increase voltage. The indication of leakage current typically will start around 1000vdc and once in awhile lower. Neither A or B is "normal" for a good tube.

However, you may be able to place a tube with condition A in service and have no problems just the same as many people will try their finals again after an arc over and replacing the cathode resistors. I admit having done this in the past, but that is before I understood what was happening and had to replace a panel meter. I wont use the tubes again if they popped the cathode resistors.

I dont want to challenge my panel meters in my personal radios not to mention my HV caps, HV rectifiers, and Power Transformer with that tremendous amount of fault energy any more. Also, I dont want to lift foils on the Final board (you should see the junk soldering I see on that board) and frankly a pain in the butt to have to repeatedly remove covers and fold over final boards and replace cathode resistors.

The problem with an emissions tester or transconductance tester that I am familiar with is it is NOT replicating the RF voltage swing at the plate of the 6146 tube in service. In this case approx 1600 volts.

So YES you can certainly sort tubes by emission or transconductance testing and you will find tubes that are softer than others, but it tells you nothing about whether it will arc over with RF drive. So you sort your 6146 tubes by how well you could load them in your tester and you select the "good" ones and install in your rig and load it up to 110 watts out at 225ma (as opposed to 90 watts with the lower emission tube) and all is well until the next time you flip to Send and hear a sickening Pop and if your eye is quick enough see the meter peg!

So you DO need both tests and the way I do that is to run the tubes in the rig after passing DC hi-potting. Our rigs are our emission testers and transconductance testers and none better than the rig for this purpose in my opinion. As I said the sub is to use an old beater DX-100 or Viking II or similar to do the emissions testing where you dont care about

damaging it. Again if you want to build an emissions tester of some design have a ball just make sure it is current limited and has a very reliable bias supply as you still have the 6146 Plate and Screen grid dissipation maximums to deal with. Thermal runaway usually destroys 6146 finals very quickly. I have a box full of 6146 finals with melted and sucked in glass envelopes and holes melted in the anode (black plate).

Yes I am sure it will take time to tell what is acceptable DC hi-pot ua leakage with many high power transmitting tubes especially when you are testing at 15kv or higher levels and then may see effects of humidity and leakage across envelope and external structures. Maybe even a low level of leakage across the tubes internal elements support structures is acceptable on some mfg tubes? I have ZERO experience hi-potting high voltage high power RF transmitting tubes. Could only go by what Eimac or Burle of other mfg published specs.

These are getting way too long. Maybe we should take this off the reflector?

Terry K9TW

50314. Re: [TS-520_820_530_830] Blog on troubleshooting/repairing TS-520 low transmitter power output problem

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-28 23:01:23 UTC
From: Karl Schwab
Topic: 50288 Message: 50314

Great information on your TS-520 repair; I have one also and one day, I will have to do what you have done! 73, de Karl, KO8S

On Thursday, November 27, 2014 1:08 PM, "jbdkz@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

<!--#yiv4735779879 #yiv4735779879 .yiv4735779879ygrp-photo-title{clear:both;font-size:smaller;height:15px;overflow:hidden;text-align:center;width:75px;}#yiv4735779879 div.yiv4735779879ygrp-photo{background-position:center;background-repeat:no-repeat;background-color:white;border:1px solid black;height:62px;width:62px;}#yiv4735779879 div.yiv4735779879photo-title a, #yiv4735779879 div.yiv4735779879photo-title a:active, #yiv4735779879 div.yiv4735779879photo-title a:hover, #yiv4735779879 div.yiv4735779879photo-title a:visited {text-decoration:none;}#yiv4735779879 div.yiv4735779879attach-table div.yiv4735779879attach-row {clear:both;}#yiv4735779879 div.yiv4735779879attach-table div.yiv4735779879attach-row div {float:left;}#yiv4735779879 p {clear:both;padding:15px 0 3px 0;overflow:hidden;}#yiv4735779879 div.yiv4735779879ygrp-file {width:30px;}#yiv4735779879 div.yiv4735779879attach-table div.yiv4735779879attach-row div div a {text-decoration:none;}#yiv4735779879 div.yiv4735779879attach-table div.yiv4735779879attach-row div div span {font-weight:normal;}#yiv4735779879 div.yiv4735779879ygrp-file-title {font-weight:bold;}#yiv4735779879 --> <!--#yiv4735779879 #yiv4735779879ygrp-mkp {border:1px solid #d8d8d8;font-family:Arial;margin:10px 0;padding:0 10px;}#yiv4735779879 #yiv4735779879ygrp-mkp hr {border:1px solid #d8d8d8;}#yiv4735779879 #yiv4735779879ygrp-mkp #yiv4735779879hd {color:#628c2a;font-size:85%;font-weight:700;line-height:122%;margin:10px 0;}#yiv4735779879 #yiv4735779879ygrp-mkp #yiv4735779879ads {margin-bottom:10px;}#yiv4735779879 #yiv4735779879ygrp-mkp .yiv4735779879ad {padding:0 0;}#yiv4735779879 #yiv4735779879ygrp-mkp .yiv4735779879ad p {margin:0;}#yiv4735779879 #yiv4735779879ygrp-mkp .yiv4735779879ad a {color:#0000ff;text-decoration:none;}-->

I created a blog on my adventures in troubleshooting and repairing a low transmitter power output problem with my TS-520. This information may prove useful to others.
The information in this blog will also apply to other Kenwood Hybrids as well.
JohnKD8SCX
Kenwood TS-520 SSB Transceiver Repair

| |
| | | | Kenwood TS-520 SSB Transceiver Repair Diagnose and repair low transmitter power output problems with your Kenwood TS-520 rig! | |
| View on jbdkz.hubpages.com | Preview by Yahoo |
| |

50315. Re: TS-520 Stopped Transmitting

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-28 23:11:21 UTC
From: dllewiszz@...
Topic: 50294 Message: 50315

Since my HV meter shows OK, I went straight to the SG measurements and found nothing. Before going to the anodes on the finals I decided to look for the cause of no SG, and went straight to the power supply. I am seeing no voltage at 210A but 210B looks fine. I did some in-circuit resistance measurements (after bleeding the caps) and I see a solid 500 ohms to gnd on 210A, while the other caps (C27a/b and C28a) show a substantially higher resistance especially in reverse (positive on gnd). Before pulling the leads off the cap, I'll ask is the culprit likely to be the 22uf filter cap? Or, since the other side of the cap is doing fine, is there likely something else pulling down the 210v line?

Many thanks for the guidance, Terry. If the cap is bad I'll be asking about the best source, and ... wow, it doesn't look too easy to get to with all the other boards mounted around it.

Dave, WA4FXT

50316. Re: [TS-520_820_530_830] TS-830 SN-3010431 no power out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-29 04:16:44 UTC
From: Joseph Stiles
Topic: 50312 Message: 50316

Ron,
Your rig was made right around Sept 1982.
You can go to: wb4hfn "dot" com there is a data base with different KW models and serial numbers and approx date of manufacture.
 73 Joe
WB7UQU

On Friday, November 28, 2014 1:37 PM, "ronaldburnor@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

  Hi group: Recently purchased this KW on e-bay. Rig was listed as receiving-xnmt not tested. As always, removed the covers to see what I could see. What I saw was the cleanest TS-830 I have seen. I mean there was not a speck of dust anywhere on the interior of this rig. Opened the final cage and everything looked the same as far as clean . The first thing that jumped out at me was the 6146b's had been replaced with w's. After powering up I did get some reception and after rotating the band switch a few times got good reception on 40m. Trying to tune up in tune mode I got no alc initialy, but after a few minutes did get some alc. I am going to proceed with testing and don't want to take up any more time on this post. Does any one have any idea how old this rig might be? Thanks guys Ron KD0KPM <!--

50317. Re: TS-520 Stopped Transmitting

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-29 12:08:32 UTC
From: wagstw46@...
Topic: 50294 Message: 50317

The 300 and 210 caps are mounted on the back right corner of the IF board. Ken K4EAA sells a kit of 4 of them. These form a C-R-C pi-filter with 470 ohm series resistor elements. One resistor is on the HV rect board and another is beside these 4 caps. Look at both to see if dark or discolored and if so replace both.

If you pull Molex conn 14 and 15 to isolate the caps you should read something on the order of approx 50k ohm to grd at 210A. I would do this test first to prove the fault is due to leaky or shorted filter capacitor.

I would pull the IF board to replace these 4 filter caps and not try to fold the board over. Becareful pulling the connectors. Dont rock them side to side as you pull. Pull up straight and if stuck then while applying upward force rock end to end. Side to side rocking can induce a hair line crack at the pin pad to pc trace transition area. Hard to troubleshoot. If this happens have to clear off mask and try to drag solder across or install small jumpers.

While board is out carefully under good lite and magnification inspect the soldering at every Molex connector Pin pad. Very common to find the pin floating and cause of poor performance/intermittents.

Take picture of the connectors or make a drawing before removal.

I need to move on as you have this well in hand.

Terry K9TW

50318. Re: [TS-520_820_530_830] Re: TS-520 Stopped Transmitting

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-29 13:36:36 UTC
From: Mike W5RKL
Topic: 50294 Message: 50318

Dave,

From what you have said, 210A voltage is 0VDC but 210B voltage is okay, have you checked R6 on the Rectifier Unit?

If R6 is open there will be 0VDC found on the following locations

1. Rectifier Unit 210 terminal
2. HV Unit 210 terminal
3. RF Unit 210 terminal
4. Final Unit SG terminal

This will lead to the following symptoms:

1. No RF output from the driver tube (driver tube is shut OFF even when the filament is glowing due to loss of screen voltage)
2. No ALC indication during DRIVE control peak adjustment in TUNE mode regardless of the CAR control setting due to loss of RF drive from the driver tube
3. No final amplifier IP idling current in any mode due to loss of positive screen voltage (adjusting the bias pot will have absolute no affect)
4. No RF output from the final amplifier

You can see this on the TS-520 schematic found in the operator and service manuals.

73
Mike W5RKL
www.w5rkl.com

This email has been checked for viruses by Avast antivirus software.
http://www.avast.com

50319. Re: TS-520 Stopped Transmitting

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-29 14:31:27 UTC
From: dllewiszz@...
Topic: 50294 Message: 50319

Good call, Terry. R6 is wide open. Now, the question of what caused it.

Dave, WA4FXT

50320. Re: Hello! Newbie Hybrid Owner - TS-830S, No Modulation

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-29 15:05:00 UTC
From: viragoxv@...
Topic: 50310 Message: 50320

Many thanks to Terry, K9TW, for a detailed response (be sending you a note soon Terry), but the problem may have "cured itself". At Terry's suggestion, I inspected the mic, and after tearing it completely apart, it seemed as though nothing looked wrong. However, when I tried it one more time, the radio seems to work again!!!

Well, we'll try to make a contact later, but on the another post about using an AT-250 Auto Tuner!

Thanks! Mike, N3QIG

50321. Re: TS-520 Stopped Transmitting

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-29 18:06:53 UTC
From: wagstw46@...
Topic: 50294 Message: 50321

I am sorry I think I gave you info for a TS830 and not a TS520!

Apparently you figured it out. Yes the 300/210 caps on the 520 are a little tough to get at. I replace them with Richies Golds out of Canada. A little pricey but a nice fit.

Yes always good idea to question why and to try to determine the root cause of a failure. Sometimes components just get tired and fail. Carbon composition resistors are also hygroscopic so common for them to go high in value and even fail open. If not discolored and found open that is probably the issue. If darkened then current was the problem and good idea to do some checking to see where source of higher than normal current is.

You can measure the IR drop across R6. Then calculate the dc current thru it with I= E/R. Then calculate the power with P = I squared x R. Once you know that you can see what R6 is dissipating.

It sees screen grid current, screen grid divider current, STB divider current on it (been awhile since I looked at it so you need to study the schematic and identify the current sources and then can get a pretty good estimate of what current R6 sees). Other way would be to lift 210 wire wrap termination and place current meter in series with the lead wire and the post, but I wouldnt do that.

I may have "normal" R6 IR drop in my notes?

Terry K9TW

50322. Re: [TS-520_820_530_830] Re: TS-520 Stopped Transmitting

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-29 18:13:05 UTC
From: W5RKL
Topic: 50294 Message: 50322

Dave,

You're welcome. I'm glad you found R6 open since that was the only component that could cause loss of 210A voltage which, as I said, is easily seen by studying the TS-520 Rectifier Unit schematic.

A bad C28A (22ufd 450VDC) cap could easily cause R6 to burn open.

73
Mike W5RKL
www.w5rkl.com

On 11/29/2014 8:31 AM, dllewiszz@... [TS-520_820_530_830] wrote:
>
> Good call, Terry. R6 is wide open. Now, the question of what caused it.
>
> Dave, WA4FXT
>
>

This email has been checked for viruses by Avast antivirus software.
http://www.avast.com

50323. Re: [TS-520_820_530_830] Re: TS-520 Stopped Transmitting

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-29 19:09:13 UTC
From: wagstw46@...
Topic: 50294 Message: 50323

Mike:

I agree R6 is the most common component to fail, but not the only one.

Can also have a bad SG switch (case tabs bent back and movable contact guts hanging out), or a poor solder connection or lead broken off the SG switch, an open L4 choke, and open grid stopper resistors. Have seen them all.

In my opinion the 520 schematic is the worse one to be able to see things easily due to non-conventional way it was drawn and the parallel line density especially if working from the one in the owners manual. I have a large blown up schematic and often have to use a straight edge to follow AGC, ALC, SG etc. Of course my eyes arent what they use to be!

I recommend that owners who want to work on their 520 go to Staples and have them digitize and blow up the schematic. Even an 18 x 24 will help, but a 24 x 36 now your cooking! I even had them laminate mine.

Terry K9TW

50324. Re: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-29 15:13:50 UTC
From: stefenrcrain@...
Topic: 50228 Message: 50324

Terry,
Please don't take these type of discussions of the list.
I suspect possibly you don't realize the vast amount of info in this post.
They do pertain to the testing of Hybrid components.
They are filled with tidbits of practical data and theory and I love them.
Stephen, KG0K

50325. Using an AT-250 Auto Tuner with a TS-830S???

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-29 15:34:51 UTC
From: viragoxv@...
Topic: 50325 Message: 50325

Now that my TS-830S seems to be working again, I'd like to try the AT-250 which came with it, instead of my MFJ-993B antenna tuner.

I do not have the remote cable mentioned, but was hoping to to use the AT-250 without it, "manually", but that doesn't seem possible....can someone confirm? If the cable must be used, I'm curious as to its purpose. I ask this question because my 993B does not require a remote/radio cable to work with the 830.

Though apparently the AT-250 which designed to operate with the TS-430, and can only operate with that radio in "Auto" mode, instructions are included for wiring a remote/radio cable for other radios, including the 830.

As always, thanks in advance from the Hybrid Newbie! Mike, N3QIG

50326. TS 830S and AT 250

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-29 18:16:00 UTC
From: historyman9999@...
Topic: 50326 Message: 50326

Hi,
I have a TS 830 and works great!! I recently acquired a Kenwood AT 250. How can used the AT 250 with the TS 830?
Thanks and 73 de Aaron WC2C

50327. Re: [TS-520_820_530_830] TS 830S and AT 250

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-29 19:49:55 UTC
From: Joseph Stiles
Topic: 50326 Message: 50327

Aaron,
The AT-250 can be used with any Kenwood. If you use it with the TS-830S, the "AUTO" band selection is not available, and thus you do not not, or can not use the "cable." You must select the band manually..and follow the manual for proper connection of coax and operation of the tuner. You can download the operation manual at:n6wk "dot" com and look down all the available files until you come to the AT-250 manual 73 Joe
WB7UQU

On Saturday, November 29, 2014 11:44 AM, "historyman9999@yahoo.com [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

  Hi,
  I have a TS 830 and works great!! I recently acquired a Kenwood AT 250. How can used the AT 250 with the TS 830?
Thanks and 73 de Aaron WC2C

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50328. Re: [TS-520_820_530_830] Using an AT-250 Auto Tuner with a TS-830S???

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-29 19:53:13 UTC
From: Joseph Stiles
Topic: 50325 Message: 50328

The tuner in question can be used with the 830.The band selection must be made manually. I have not used or seen an AT-250 used with an 830, except for the manual mode. I will have to look at the tuner manual...but I think that the "auto band selection" is not available on the 830...I could be wrong
 73 Joe
WB7UQU

On Saturday, November 29, 2014 7:34 AM, "viragoxv@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

  Now that my TS-830S seems to be working again, I'd like to try the AT-250 which came with it, instead of my MFJ-993B antenna tuner.

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Though apparently the AT-250 which designed to operate with the TS-430, and can only operate with that radio in "Auto" mode, instructions are included for wiring a remote/radio cable for other radios, including the 830.
',As always, thanks in advance from the Hybrid Newbie! Mike, N3QIG

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50330. Re: [TS-520_820_530_830] Using an AT-250 Auto Tuner with a TS-830S???

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-29 20:42:18 UTC
From: viragoxv@...
Topic: 50325 Message: 50330

Joe,

Thank you for your reply!

The snippet of the AT-250 Operating Manual that I pasted into my message did not show up correct.

I understand that the AT-250 can be used with my TS-830S, and that band selection must be use manually, NOT in the AUTO position.

My question is regarding the need for the remote cable between the radio and tuner, as shown in the operations manual picture of a 830 hooked to a 250. I do not use any such cable when hooking my MFJ-993B tuner to the 830, and everything works fine.

I'm curious if I need to use a cable with the 830/250 combo for some reason. I tried hooking up the 250 to the 830 without the cable but the 250 made no attempt to match the radio/antenna....it just sat there! ;-)

Any help would be greatly appreciated! Thanks! Mike, N3QIG

50331. Re: TS-520 Stopped Transmitting

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-29 21:17:35 UTC
From: dllewiszz@...
Topic: 50294 Message: 50331

Oops - Mike, I called you Terry by mistake. You've both been quite helpful. I've looked around at the SG switch and at the rectifier board and don't see anything unusual. Since the rig was working properly and then stopped transmitting, it is less likely that mechanical problems caused the failure, and more likely that R6 just went open due to age, or that C28 helped it along. I'll pull the leads off two of these caps and compare resistance readings in both directions and will note the charge action on both to try and determine if the cap is defective. I'm seeing about 500 ohms across it on an in-circuit test but that isn't proving anything. It looks like R6 is a 2 Watt resistor. If that's not correct, please let me know -- otherwise, you may drop this thread from your radar screens while I get some parts and get back on the air.

Thank you again, gentlemen!

Dave WA4FXT

50332. Basic Test Equipment items for sale

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-29 22:18:09 UTC
From: Mike W5RKL
Topic: 50332 Message: 50332

I have the following basic test equipment items that are excess to my needs. The following items are excellent for a ham to get started with and learn how to use "basic" test volt meters.

/*1. Heathkit IM-17 solid state FET AC and DC Volt/Ohm meter.*//*
*//*AC voltage ranges are 1.2, 10, 100 and *//*1000*//*
*//*DC voltage ranges are 1, 10, 100, and 1000*//*
*//*Ohm ranges are Rx1, Rx100, Rx10K and Rx1M*//*
*//*Has fresh batteries (1.5 C cell and 9*//*volt).
Bias pot calibration is set properly and both AC and DC voltage pots have been set correctly per the instructions in the manual
*//**//*All Probes include*//*d
All rotary switches and pots have been cleaned and rotate freely
*//**//*Copy *//*of the assembly manual included*//*
*//*Carrying case in very good condition (there are what appears to be paint "dots" *//*/*over */*//*/*spray */on the ca*//*binet but NOT on the meter face, front panel or knobs. All knobs are original, not cracked!!)
Meter face is in excellent condition.
*//*This is an excellent meter to use in the field where AC power is not available.
I can include a spare set of four "new" 2N3393 transistors, the meter uses four 2N3393s and one "new" FET (NTE-133) for an additional $5. The NTE-133 is available from Newark for $3.44 "each" and the 2N3393s from Mouser for 51 cents "each".
*//*Price = $35 plus ship*//*ping

*/

/*2. Heathkit V7A V*//*TVM*//*
*//*AC and *//*DC volt ranges are 1.5, 5, 15, 50, 150, 500 and 1500*//*
*//*Ohm ranges are Rx1, Rx10, Rx100, Rx1000, Rx10K, Rx100K, and Rx1M*//*
*//*Includes fresh battery (C cel*//*l)*//*
*//*Cabinet very good, no extra holes, handle attached on top, no dents, no extra holes. *//*
*//*Meter works
Copy of the assembly manual included
All knobs are original and NOT cracked!!
All rotary switch and pots have been cleaner and rotate freely
Power cable (2 prong) in excellent condition.
This meter uses a 1/4" mono plug probe for DC voltages (1Meg in the probe) and 2 separate RED and BLACK probes for AC. I have ordered a new DC probe with a new 1 meg internal resistor, should arrive by Thursday next week. I have new general purpose AC probes that will be included along with the new DC probe.*//**/
/*Price = $25 plus shipping

*/

/*3. Heathkit AC Volt meter IM-21 (original Dark front panel)*//*
*//*AC ranges .01, .03, .1, 3, 10, 30, *//*100, 300*//*
*//*A new *//*/*set of general purpose */probes included (2 Banana
sockets on front*//*of meter RED and BLACK)*//*
*//*Cabinet*//*is in excellent condition, handle attached to top, no
dents, no extra holes, AC power cable (2 prong) is in excellent
condition*//*
*//*Meter w*//*orks*//*
*//*Copy of assemb*//*ly manual included
The single knob is original and it is NOT cracked!!
Rotary switch has been cleaned and it rotates freely
*//**//*Price = $25 plus shipping*/

I accept Paypal, address same as my e-mail address

If interested, contact me off group.

I do not pack items for shipping, I have the UPS/FedEx agent in town do
the packing. I have never had damage occur from shipping using this
method. It also makes claims easier since the Agent, not me, does the
packing using "new" boxes and packing materials.

73
Mike W5RKL
www.w5rkl.com

--

This email has been checked for viruses by Avast antivirus software.
http://www.avast.com

50334. Re: [TS-520_820_530_830] Re: TS-520 Stopped Transmitting

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-29 22:23:15 UTC
From: Mike W5RKL
Topic: 50294 Message: 50334

The parts list shows the Rectifier Unit's R5 AND R6, both 470 ohm, are
"2 watt". If I said "1/2W" then I was wrong.

I'll back down and let you and Terry continue

73
Mike W5RKL
www.w5rkl.com

On 11/29/2014 3:17 PM, dllewiszz@... [TS-520_820_530_830] wrote:
>
> Oops - Mike, I called you Terry by mistake. You've both been quite
> helpful. I've looked around at the SG switch and at the rectifier
> board and don't see anything unusual. Since the rig was working
> properly and then stopped transmitting, it is less likely that
> mechanical problems caused the failure, and more likely that R6 just
> went open due to age, or that C28 helped it along. I'll pull the leads
> off two of these caps and compare resistance readings in both
> directions and will note the charge action on both to try and
> determine if the cap is defective. I'm seeing about 500 ohms across it
> on an in-circuit test but that isn't proving anything. It looks like
> R6 is a 2 Watt resistor. If that's not correct, please let me know --
> otherwise, you may drop this thread from your radar screens while I
> get some parts and get back on the air.
>
> Thank you again, gentlemen!
>
> Dave WA4FXT
>
>

This email has been checked for viruses by Avast antivirus software.
http://www.avast.com

50335. Re: [TS-520_820_530_830] This is, perhaps, a dumb question--TUBES

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-29 22:52:23 UTC
From: wagstw46@...
Topic: 50228 Message: 50335

Stephen:

I think have pretty well covered about all I can contribute to dc hi-potting of 6146 tubes. I have a write up on my website http://www.k9tw.com http://www.k9tw.com under the How to Guides and couple of pictures of my hi-pot. I will be glad to try to answer any questions you may have off list at this point.

I am likewise confident that Jan would be glad to discuss his work on the emission tester he is building.

Only thing I would like to close with is that in my experience there is still no better test than running any 6146 tube that you have in your specific KW hybrid. I dont know of any test gear or testing techniques that can give you 100% assurance wont have a failure in service. About best we can do is cull out the weak sisters.

Appreciate your interest.

Terry K9TW

50336. Re: TS-520 Stopped Transmitting

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-29 23:00:07 UTC
From: dllewiszz@...
Topic: 50294 Message: 50336

I have a 390 ohm / 2W in the resistor box but figure that's not close enough, so I'll stop by RS and hopefully pick one up. I have isolated the caps (and all the 210 feeds) [remember when we used to call this B+ ?] and determined they look good, but the 500 ohm load from the driver board still gives me some concern. The 210 connector on the driver board feeds the driver tube via a 3900 ohm series resistor, but I'm reading substantially less than that, and am seeing lower than expected resistance from pin 8 of the driver to ground. The .01 cap looks good visually but I suppose could be shorted or exhibiting low resistance. We'll see what happens with the new R6 and I'll look closely at the drop across that resistor to determine the current flow and power dissipated thru it. It's possible something is going on with the driver ckt.

Dave WA4FXT

50337. Re: [TS-520_820_530_830] Using an AT-250 Auto Tuner with a TS-830S???

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-29 23:20:16 UTC
From: Joseph Stiles
Topic: 50325 Message: 50337

Mike,
I have some computer problems going on...so..I'll resend:
I looked around, and it appears that the tuner needs a keying signal.
From what I can figure:
 On the rear of the 830S - REMOTE socket...pins 2, 4, & 5 need to be connected to the AT-250 "ACC" socket pins 2, 4, & 5. This will be a pin for pin connection....pin 2 to pin 2...etc.
Please check both schematics to see if you concur. I am away from home..and looking at a real small screen...and enlarging just gets all pixelated.
I don't want to give erroneous info..and have you fry something!!
 73 Joe
WB7UQU

On Saturday, November 29, 2014 1:02 PM, "viragoxv@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

  Joe,

Thank you for your reply!

The snippet of the AT-250 Operating Manual that I pasted into my message did not show up correct.

I understand that the AT-250 can be used with my TS-830S, and that band selection must be use manually, NOT in the AUTO position.

My question is regarding the need for the remote cable between the radio and tuner, as shown in the operations manual picture of a 830 hooked to a 250. I do not use any such cable when hooking my MFJ-993B tuner to the 830, and everything works fine.

I'm curious if I need to use a cable with the 830/250 combo for some reason. I tried hooking up the 250 to the 830 without the cable but the 250 made no attempt to match the radio/antenna....it just sat there! ;-)

Any help would be greatly appreciated! Thanks! Mike, N3QIG

50338. Re: TS-520 Stopped Transmitting

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-29 23:32:11 UTC
From: wagstw46@...
Topic: 50294 Message: 50338

Dave:

Ohm-meter testing of the electrolytic filter caps is not a very good way to test them. Best in-circuit test is to ESR. Absent that tester then use something like a Heath IT-28 or better yet a Sprague Tel-o-Mike and measure leakage current. If you have a variable HV dc supply can use it with your DMM on dc current range to measure leakage. Lots of opinions on acceptable leakage limits but a rough rule of thumb is 1ma/30uf.

Also eyeball the rupture vents and if swollen and cracked time to replace them. Ohm readings and watching charge or measuring capacitance with a bridge wont tell you very much. Can still have capacitance value within tolerance and be bad.

Good 900vdc HV caps will ESR around .30 to .40 and good 300/210 caps will ESR around 1.0 to 1.5.

Terry K9TW

50339. Re: TS-520 Stopped Transmitting

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-30 01:01:58 UTC
From: wagstw46@...
Topic: 50294 Message: 50339

Very common for screen grid divider resistors R70 and R71 to be bad and sometimes changed out as part of QRO mod. Most commonly will find R70 82k to be bad and frequently it will be open.

R6 is used in lieu of a choke coil as it is cheaper to use a C-R-C filter than a C-L-C filter. Ken K4EAA sells a kit that includes R6.

Here are some typical 210A readings measured from the 210A wire wrap post (rig down powered).

1. Approx 71k ohms to chassis ground
2. Yellow wire = approx 175k to ground
3. Orange wire = 122k to ground
4. The Yellow wire and Orange wire loads are in parallel or 175 x 122 / 175 + 122 = 71k

The Yellow wire feeds STB on the AF Board thru R16/R17 100k dividers mounted on a phenolic terminal strip near 6146 final tube sockets. R16 and R17 are shown on the schematic just below the Indicator Unit. Never found them bad.

Terry K9TW

50340. Re: TS-520 Stopped Transmitting

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-30 01:49:28 UTC
From: wagstw46@...
Topic: 50294 Message: 50340

Dave

I dont have covers off a TS520 at this time. You may want to contact Jimmy Lamanteer WB2KNR. He is the TS520 guru and has a fleet of 9 or 10 TS520s at all times and usually has covers off and you might get him to take some "normal" readings for you. What I have given you is from memory and some notes but not recent.

Terry K9TW

50341. TS-520: Intermittent Xmit Audio on 15 Meters

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-29 23:24:54 UTC
From: mike.allard42@...
Topic: 50341 Message: 50341

Greetings! As a prelude: I posted about three weeks ago noting that I had a bad solder joint in my new-to-me TS-520; I was able to fix it (along with another one that I noticed on another air variable capacitor contact) and my jumpy meter seems to be fixed. I also used DeOxIt on all the switches and pots, and my dirty volume pot is much better.

Before I fixed the radio, I had a couple contacts on 15 meters. Each of them noted that I seemed to have some audio issues; one guy talked with me long enough to describe what he was hearing. He said that when my audio was working, I was 59+10; when it "cut out" it sounded like I was talking from across the room. One of my elmers said that it sounds like a cold solder joint.

I have made other contacts on 10, 20, and 40 meters, always with excellent audio reports and often with comments about how good the mic sounds.

When I watch the ALC meter when I'm transmitting on 15; the needle behaves "normally" for a second and then slowly fades, and then it may (or may not) jump back up again. Also, it seems like the MIC control needs to be set much lower on 15. I typically have it set at about 5; on 15 meters, I have to set it at about 2 or so, or the needle swings way past the ALC range.

Note: I am not an electrical/circuit expert, and I'm still learning how radios actually work under the hood. I can read the schematics and can follow directions, though. :) I do have a Heathkit IM-13 VTVM which seems to be properly calibrated, so I can take some voltage/resistance measurements.

So: Any suggestions on where to look? 15 has been open in the early afternoon; I made "most of a contact" with a guy in the Canary Islands off the end of my 40-meter dipole yesterday - but he could never pick up the last letter of my call sign. Sigh. I'm really excited about making some more DX contacts!

Thanks in advance - I've been enjoying reading all the great messages for the last couple weeks and I've saved about a dozen for future deeper research.

73! Mike K9MJA

50342. Re: TS-520 Stopped Transmitting

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-30 03:17:36 UTC
From: dllewiszz@...
Topic: 50294 Message: 50342

You're spot on, Terry. The big surprise right now is that R70 reads 200 ohms and R71 reads 300 ohms. With nothing else in the ckt! That is why I kept seeing 500 ohms to ground on 210A. When I pull 210A from the driver board I see the approx 70K resistance to ground that you describe (on the 210 line). Both R70 and R71 have been warm, with the colors faded and some slight cracking observed. It's unusual (to me) to see two resistors age and drop to a pretty low resistance compared to their original spec (82K and 3900). Man, it's not easy to get to the underside of the driver board.
A new R6 and new R70 and R71 tomorrow and my bet is that I'll be on the air unless the driver tube is defective. With R70 out of ckt and 210A reconnected to the driver board, and the tube in socket, things appear normal on the 210A, so at the very least I shouldn't burn any more R6's after these parts are replaced.

Dave WA4FXT

50343. Re: TS-520 Stopped Transmitting

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-30 13:02:22 UTC
From: wagstw46@...
Topic: 50294 Message: 50343

Dave:

Yes pretty common to find bad SG dividers on all the Hybrids. I stock a large supply of the resistors. Depending on the model either a 82k or a 100k is used in this application for slightly different (a little lower) driver tube sg voltage.

You may have a bad Driver tube as the values of this divider may have resulted in too high voltage on the SG and exceeded the SG dissipation rating (it is only about 1 watt).

I dont think I see a single TS820 where these same dividers are not bad. Its RF board is very easy to pull and need to pull it anyway to clean the molex connectors at the Coil Pack board interface so as a matter of routine I just pull the Driver tube anode supply resistor and the two SG divider resistors and replace all 3 of them and with the board out it gives me easy access to the VFO air variable access panel cover screws to let me do a good rotor shaft wiper contact cleaning. Some fellows bugger up the two screws and scratch the aluminum plate with a needle nose pliers and cross thread the two small screws. I know you dont care about the TS820. Just telling you and others that your issue is not limited to the TS520 design.

OK when you get all done make sure you measure not only the Driver tube anode and screen grid voltages at the tube socket but also measure the 6146 screen grid voltages at the tube socket. Need to make sure someone hasnt performed some goofy QRO mod. Most common is to supply 6146 screen grids off the 300 bus. If you are going to do much of this work suggest you buy a Pomona test socket for the Driver tube to facilitate voltage and signal measurements.

You have this well in hand and I need to move back to the bench.

Have fun and be careful
73s Terry K9TW

50344. Re: TS-520: Intermittent Xmit Audio on 15 Meters

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-30 13:15:39 UTC
From: wagstw46@...
Topic: 50341 Message: 50344

Try changing the Driver tube as first step.

Can also test the RF drive level on all the bands by turning off the SG switch and with rig in CW mode flip to send and adjust Car Level for max ALC and watch the key down level to see if it holds where you set it. Do this on all bands and let it rest a little between bands. 12BY7A cathode emission begins to fall off on the higher bands as the tube ages.

Terry K9TW

50345. Re: [TS-520_820_530_830] Using an AT-250 Auto Tuner with a TS-830S???

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-30 14:33:36 UTC
From: viragoxv@...
Topic: 50325 Message: 50345

Joe,

Yes, the manual does show the wiring for the remote cable. I'll wire one up and let you know how I make out!

Thanks for ALL your help....I was just puzzled as to why the cable was needed.

Mike, N3QIG

50346. Re: [TS-520_820_530_830] 820s no display at all.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-29 20:15:31 UTC
From: Joseph Stiles
Topic: 50346 Message: 50346

Jeremy,
Look on the rear of the rig and make sure that there is either a small round 9 pin "shorting plug" as referred to in the operators manual, or a piece of wire making a jumper between pin(holes) 8 & 9. If either are there, with the display blank, does the rig seem to operate otherwise??If either/or are missing there is no power to the VFO...thus rig won't work
If on or the other are there, you may have to pop the top and possibly clean the connector on the top of the DG-1. That is the rectangular box that is connected to the digital display tube.
The 820S is a great rig, but the DG-1 unit is a real problem at times.
 73 Joe
WB7UQU

On Saturday, November 29, 2014 12:06 PM, "mpwells00@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

  Hello All i just go my 820s and was told it worked great. upon receiving it i have no display at all. i have tried and checked all connections on the unit it was packaged well. If any of you could please help would be great.
Thanks Jeremy Wells KC9WMV

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50347. Kenwood Hybrid Net Update (November 30, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-30 19:46:45 UTC
From: Mark Gilger
Topic: 50347 Message: 50347

Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm
The net started it's existence on November 1st,
2012. The yearly check-in totals are posted at
the bottom of this message. It showed we had a
10% increase in our Saturday check-ins and an 8%
on Sunday as compared to the 2012 check-ins.

The Saturday's net was run by me, WB0IQK. There
were 36 stations checking in under good band conditions.

We had the following number of radios checking in.

2 running TS-520(x)
5 running TS-530(x)
2 running TS-820(x)
7 running TS-830S
0 running TS-511
0 running 599 twins

I was running my Drake 'C' liine & Drake L4B amplifier.

The Sunday net was run by me, WB0IQK. There were
20 stations checking in under fair band
conditions. He had the following number of radios checking in.

2 running TS-520(x)
3 running TS-530(x)
1 running TS-820(x)
6 running TS-830S
1 running TS-510
0 running 599 twins

The rest were running non Kenwood hybrid equipment.

He was running my Drake 'C' line & Drake L4B amplifier.

We have been having several people checking in
regularly with their TS-430, TS-440, and
TS-940□s, which of course is not a hybrid,
although over 30+ years old. Everyone is welcome
as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a net control station, please send me an email. Currently it's just myself, WB2KNR and WB0SGA. I would like to get several more. If we do, we can alternate so everyone might be on a 3-4 week rotation. It's a lot of fun and a good way to make sure you station is optimized.

For anyone that has not heard, we have a new web site that WB4HFN is hosting. He currently has a very nice site for Drake, Collins and Heathkit and now Kenwood Hybrids. Good quality manuals plus sale flyers and brochures will be found here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 ☐ Oct. 2012 Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins
Nov. 2013 - Oct. 2014 Saturdays total 842 check-ins, Sunday total 744 check-ins

November 2014, Saturday☐s net total 142, Sunday☐s total = 88 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

50348. FS TS-520 & other hybrid parts

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-30 20:18:56 UTC
From: k7mks@...
Topic: 50348 Message: 50348

Handle. Good leather - needs restiching. $18 shpd USPS. Original power cord w/ 12 pin female connector. $17 shpd USPS. LH cabinet side control panel $8 shpd USPS. DC-DC Power Module. Untested.as-is. Can send photos. $40 + USPS. 73 joe k7mks

50349. Re: [TS-520_820_530_830] Using an AT-250 Auto Tuner with a TS-830S???

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-11-30 20:20:39 UTC
From: Joseph Stiles
Topic: 50325 Message: 50349

Mike,
No problem. That's what this group is all about. PSE report back ifthe cable connection works. All posts/msgs are saved, so if it works out...which I think it should, there will be a reference in the group archives that can be referred to by another down the road.
 73 Joe
WB7UQU

On Sunday, November 30, 2014 7:01 AM, "viragoxv@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

  Joe,

Yes, the manual does show the wiring for the remote cable. I'll wire one up and let you know how I make out!

Thanks for ALL your help....I was just puzzled as to why the cable was needed.

Mike, N3QIG

50350. Re: TS-520: Intermittent Xmit Audio on 15 Meters

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-01 02:16:59 UTC
From: mike.allard42@...
Topic: 50341 Message: 50350

Terry -

I did the RF drive test as you suggested, leaving it in Send for 10-15 seconds on each band, with at least 1 minute delay between bands. I did not see the ALC meter start to drop on any band, even on 10 (which is where I understand the driver tube will first go "soft").

Then I tried to tune up the radio on 15. It only took me about 30 seconds to remember that the SG switch was still off. :)

I was able to make a contact with PY2VI in Brasil on 15 - and a couple hours later I had a 5-minute QSO with KB7MBI, Alan, in Seattle. He told me that my audio sounded great, and that my D-104 was a great complement to the TS-520. (I'm running the D-104 unamplified.) And then the band faded on us.

So, at this point, it does look like my intermittent problem might actually be fixed. And it looks like maybe my driver tube isn't on its last legs yet.

If the problem reappears, I'll probably be back with more questions!

Thanks so much, and 73!

- Mike, K9MJA

50351. ts830s display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-01 01:04:09 UTC
From: alleyj33@...
Topic: 50351 Message: 50351

frequency is 500khz low on all bands. moving the vfo knob don't change frequency. I'm thing vfo is not working, any thoughts anyone before i take the lids off. jay

JAY, posts are required to be signed with name & call(if any) per group policy/rules

73 Joe wb7uqu
Group Co-owner

50352. Caig Silver Conductive Ink for bandswitch repair - good price

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-01 03:39:42 UTC
From: louis.wilen@...
Topic: 50352 Message: 50352

Just want to let everyone know that Radio Shack is currently offering Caig Silver Conductive Ink pens for $12.47, which is about 40% off regular price and easily the best price around. Use the code CYBER10 at checkout to get an additional 10% off. Shipping to your home is free.

This is the product that Ken, K4EAA, recommends for bandswitch repair.

The link on to product on the RS site is:

CAIG CircuitWriter Pen : Soldering tools & supplies | RadioShack.com
http://www.radioshack.com/caig-circuitwriter-pen/2760037.html#.VHvhxlH4rxc

http://www.radioshack.com/caig-circuitwriter-pen/2760037.html#.VHvhxlH4rxc

CAIG CircuitWriter Pen : Soldering tools & supplies |...
http://www.radioshack.com/caig-circuitwriter-pen/2760037.html#.VHvhxlH4rxc Get the CircuitWriter Pen at RadioShack.com and see our entire selection of Soldering tools & supplies. Draw traces on circuit boards, repair de...

View on www.radioshack.com
http://www.radioshack.com/caig-circuitwriter-pen/2760037.html#.VHvhxlH4rxc
Preview by Yahoo

Louis
W3VVV

50353. Re: [TS-520_820_530_830] 520S Parting out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-01 04:31:07 UTC
From: Nathan Johnson
Topic: 50242 Message: 50353

Transformer is gone, also about half the knobs. Still have most of a radio here if anyone needs parts.

Nathan
KK4REY

On Tue, Nov 25, 2014 at 8:49 PM, Nathan Johnson <jdownj@...> wrote:

> So far, MIC/CAR knobs are gone, and someone is looking at the rest of the
> knobs, contact me off-list with specific needs.
>
> Nathan
> KK4REY
>
>
> —
> Sent from Mailbox <https://www.dropbox.com/mailbox>
>
>
> On Tue, Nov 25, 2014 at 8:10 PM, R Oler orbitjet@...
> [TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com> wrote:
>
>>
>>
>> sorry to late for this see ou have plenty takes...if you have anything
>> left let me know Robert WB5MZO
>>
>> Sent from my iPad
>>
>> On Nov 25, 2014, at 15:45, 'Nathan Johnson' jdownj@...m
>> [TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com> wrote:
>>
>>
>>
>> I have a 520S that is pretty far gone(had to evict a mud-dauber nest), no
>> real attempt to troubleshoot was made other than to note that the rectifier
>> board was burnt into multiple pieces. I got it for the VFO, which I am
>> using to repair my 820. VFO tested and working, so not everything was
>> killed by whatever got the rectifier.
>>
>> Anybody want parts? Since I am not fully equipped to test this stuff,
>> I'll be sending most of it just for the cost of shipping... I already got
>> my money out of the VFO. I have basic test equipment, and can take good
>> pics of any part you want.
>>
>> Nathan

>> KK4REY
>>
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>>
>>
>>
>
>

50354. Re: [TS-520_820_530_830] 520S Parting out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-01 05:06:17 UTC
From: R Oler
Topic: 50242 Message: 50354

DO you have the chassis and the case? Robert WB5MZO /TA1 also

Sent from my iPad

> On Nov 30, 2014, at 22:39, Nathan Johnson jdownj@gmail.com [TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com> wrote:
>
> Transformer is gone, also about half the knobs. Still have most of a radio here if anyone needs parts.
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> Nathan
> KK4REY
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>>>> Anybody want parts? Since I am not fully equipped to test this stuff, I'll be sending most of it just for the cost of shipping... I already got my money out of the VFO. I have

basic test equipment, and can take good pics of any part you want.
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>>>> Nathan
>>>> KK4REY
>>>>
>>>> —
>>>> Sent from Mailbox
>
>

50355. Re: [TS-520_820_530_830] 520S Parting out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-01 15:32:57 UTC
From: Nathan Johnson
Topic: 50242 Message: 50355

I have a good chassis, but the top and bottom covers are scratched and rusty. They are not bent, and could easily be used with fresh paint. Contact me off-list for some pics.

Nathan

KK4REY

—
Sent from Mailbox

On Sun, Nov 30, 2014 at 11:06 PM, R Oler orbitjet@...
[TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com> wrote:

> DO you have the chassis and the case? Robert WB5MZO /TA1 also
> Sent from my iPad
>> On Nov 30, 2014, at 22:39, Nathan Johnson jdownj@... [TS-520_820_530_830]
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>>
>> Transformer is gone, also about half the knobs. Still have most of a radio here if
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<TS-520_820_530_830@yahoogroups.com> wrote:

>>>>>
>>>>>
>>>>> I have a 520S that is pretty far gone(had to evict a mud-dauber nest), no real attempt to troubleshoot was made other than to note that the rectifier board was burnt into multiple pieces. I got it for the VFO, which I am using to repair my 820. VFO tested and working, so not everything was killed by whatever got the rectifier.
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>>>>> Nathan
>>>>> KK4REY
>>>>>
>>>>> —
>>>>> Sent from Mailbox
>>
>>

50356. Re: [TS-520_820_530_830] ts830s display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-01 18:03:17 UTC
From: Craig Roberts
Topic: 50351 Message: 50356

Please make sure the "DH" (digital hold) switch is not depressed. It's between the S-meter and the frequency readout.

73,

Craig
W3CRR

50357. Re: [TS-520_820_530_830] Using an AT-250 Auto Tuner with a TS-830S???

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-01 11:57:26 UTC
From: viragoxv@...
Topic: 50325 Message: 50357

Joe,

From the manual, it looks like I need one 7-pin and one 8-pin DIN plug, and some shielded two conductor cable.

On the 8-pin plug for the AT-250 ACC socket, the shield is grounded and pin #8 and #3 are used. On the 7-pin plug for the radio's REMOTE socket, the shield goes to pin #2, and pin #4 and #7 are used.

```
AT-250 ACC Radio REMOTE
Pin #8-----------------Pin #7
Pin #3-----------------Pin #4
```

I'll like you know how I make up after the parts come in.....73! Mike, N3QIG

50358. Transverter leads

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-01 08:07:46 UTC
From: beeson.neil@...
Topic: 50358 Message: 50358

Hirose P-1312-CTA. That's the part number for the plugs. Mouser said they could supply until I gave them a copy of a letter from Hirose dated 12/2012 stating no longer in production.
I found out Hirose stopped making them in 2012,
I know Rocking horse manure is easier to find.
BUT I WONT give up !! Somebody will have the transverter leads and no transverters. I've got the transverters and no leads,
So if this is YOU email me with your price PLEASE.....
73
Neil
VK6NSB

50359. Re: [TS-520_820_530_830] ts830s display

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-01 22:50:16 UTC
From: jay alley
Topic: 50351 Message: 50359

thanks for the info about my 830 display. Bob put me right on it. I took the top off and reseated the 12 pin molex connector on the display board that didnt fix but i noticed i could apply pressure to the connector and everything returned to normal. it had a cold solder joint on the male part of the connector soldered to the display board. resoldered all the connections and everything Ok. You folks are the great!!! Jay N4HD

50360. TS-520 meter lamps in series or parallel?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-02 02:48:20 UTC
From: dllewiszz@...
Topic: 50360 Message: 50360

One of my lamps is open and I don't know if they are factory/original or have been replaced. I understand the originals are 12V/50ma but how are they wired originally? Mine are in series with a 47 ohm resistor between them. Whether I buy a pair from Ken or elsewhere, I need to make sure I wire them correctly - and whether or not the 47 ohm resistor is original or a later mod.

Dave, WA4FXT

50361. Re: [TS-520_820_530_830] TS-520 meter lamps in series or parallel?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-02 14:14:45 UTC
From: Mike W5RKL
Topic: 50360 Message: 50361

Dave,

The 4 lamps (meter and VFO) are wired in parallel. The lamps are all 12 volt lamps. The original lamp circuit does not have a resistor in series with the lamps. The lamp power is provided by the TS-520 power transformer's "12.6" secondary winding. The lamps are very easy to find on the TS-520 schematic, they are labeled PL1, PL2, PL3, and PL4. Ken, K4EAA, sells replacement 12 volt lamps. You do not need the series resistor.

73
Mike W5RKL
www.w5rkl.com

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50362. Re: [TS-520_820_530_830] TS-520 meter lamps in series or parallel?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-02 15:28:14 UTC
From: dllewiszz@...
Topic: 50360 Message: 50362

Thanks, Mike -- That's what I see on the schematic but always am curious if there's been an official mod that changes what's on the diagram. Looks like someone had a pair of 6V lamps they decided to use as replacements in my radio.

Dave, WA4FXT

50363. RE: [TS-520_820_530_830] Question about the VFO-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-02 21:02:36 UTC
From: David Boothe
Topic: 49713 Message: 50363

Hey,
That got me thinking. I have a VFO-820 but it is not lit when operating. Can someone tell me if there’s supposed to be a lamp inside before I take the cover off?
Thanks
Dave
KC3CIP

edited - 73 Joe wb7uqu

50364. Re: [TS-520_820_530_830] Question about the VFO-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-02 21:11:59 UTC
From: Joseph Stiles
Topic: 49713 Message: 50364

Dave,
The answer is YES. It uses the same bulb and mounting method as in the rigs main VFO, as they are the same.
The bulb is also the same as those used in the 520, 820, 530, 830 meter and VFO illumination 73 Joe
WB7UQU

On Tuesday, December 2, 2014 1:09 PM, "'David Boothe' boothedw@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Hey,That got me thinking. I have a VFO-820but it is not lit when operating. Can someone tell me if there’s supposed tobe a lamp inside before I take the cover off?ThanksDaveKC3CIP edited - 73 Joe wb7uqu

50365. Re: [TS-520_820_530_830] Question about the VFO-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-02 21:21:02 UTC
From: Mike W5RKL
Topic: 49713 Message: 50365

Yes, David, there is one lamp in the VFO-820. You can see it on the VFO-820 schematic, page 71 in the TS-820 service manual. The lamp is labeled "PL1" and it lights the VFO dial, same place as the TS-820's internal VFO dial lamp is located. It's a 12 volt lamp, same as those in the TS-820 meter and VFO dial. The lamp receives power from the TS-820 through the remote VFO socket, pin 4. Ken, K4EAA (www.k4eaa.com), sells replacement lamps for the various KW hybrids (see his website for details and prices).

73
Mike W5RKL
www.w5rkl.com

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50366. RE: [TS-520_820_530_830] Question about the VFO-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-03 00:03:47 UTC
From: David Boothe
Topic: 49713 Message: 50366

Thanks, Joe. I'll get some spare bulbs and light it up again!
Dave
KC3CIP

50367. RE: [TS-520_820_530_830] Question about the VFO-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-03 00:07:20 UTC
From: David Boothe
Topic: 49713 Message: 50367

Thanks, Mike. I did pull out the schematic from the VFO-820 manual after sending off the note and saw PL-1, but couldn’t tell from the manual what manner of bulb it was. I assumed it was the same as the 820, but you know what happens when you assume! I’ll probably order from Ken, along with some other parts I need.
Dave
KC3CIP

50368. Re: [TS-520_820_530_830] This is, perhaps, a dumb question.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-03 01:10:18 UTC
From: Tom Maier
Topic: 50228 Message: 50368

Mike,

I finally got around to pulling the cover off of the finals today and was surprised to find that they are S2001As not 6146s. I was aware of the old 6146 and 6146A "in the old days" , and I know that the Bs are slightly different. The S2001A is a curve ball to me.

I have checked around and they seem to be equivalent to the 6146B, but don't seem to be carried by any of the three places you recommended. I can't seem to find more than 1 S2001A from any one source, but I did manage locate Sino 6146Bs from Tube Depot.

You be the expert here. Is that what you would recommend?

Tom, K3WFN aka "Carvin' Tom"

this msg shortened/edited as it contained already posted material. 73 Joe wb7uqu

50369. Re: [TS-520_820_530_830] This is, perhaps, a dumb question.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-03 03:57:26 UTC
From: Joseph Stiles
Topic: 50228 Message: 50369

Tom,
The Matsushita S2001A final amplifier tube(s) came as original equipment until sometime in the mid to late production run of the TS820S series. They are now considered "obsolete." My 820S still has it's 2001A's and they still have very good output. I know nothing of the Sino brand. The 6146B and 6146W are good replacements...as to the brand...that subject has been "discussed" at great length...so, I will not recommend a specific brand...but, I stick with a "USA" manufactured tube. That's just me. There is a good document regarding the 6146 family of tubes in the "FILES" on this groups home page. 73 Joe
WB7UQU

On Tuesday, December 2, 2014 7:44 PM, "Tom Maier carvintom@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

  Mike,

I finally got around to pulling the cover off of the finals today and was surprised to find that they are S2001As not 6146s. I was aware of the old 6146 and 6146A "in the old days" , and I know that the Bs are slightly different. The S2001A is a curve ball to me.

I have checked around and they seem to be equivalent to the 6146B, but don't seem to be carried by any of the three places you recommended. I can't seem to find more than 1 S2001A from any one source, but I did manage locate Sino 6146Bs from Tube Depot.

You be the expert here. Is that what you would recommend?

Tom, K3WFN aka "Carvin' Tom"

this msg shortened/edited as it contained already posted material. 73 Joe wb7uqu

50370. Re: [TS-520_820_530_830] This is, perhaps, a dumb question.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-03 12:22:39 UTC
From: W5RKL
Topic: 50228 Message: 50370

Hi Tom,

The S2001A is the Japanese equivalent to the 6146B.

The "S2001" is the Japanese equivalent to the 6146/6146A. Notice the lack of the "A" suffix!!

There are a few differences between the 6146A and 6146B tubes

1. Plate dissipation is higher in the 6146B when compared to the 6146A
2. 6146/6146A Grid #1 to Plate inter-electrode capacitance is .24uuf while the same inter-electrode capacitance in the 6146B is .22pfd, a difference of .02uuf
3. Filament current in the 6146A is 1.250 amps at 6.3VAC while the 6146B filament current is 1.125amps at 6.3VAC

The 6146 is the exact equivalent to the 6146A except the "A" has a more rugged filament.

The 6146As are still in use today in other makes and models of vintage transceivers/transmitters. The 6146A can be found as NOS tubes at various on-line websites such as:

www.vacuumtubes.net

and

www.TubeDepot.com

to name a few. There are others but those 2 comes to mind.

73
Mike W5RKL
www.w5rkl.com

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http://www.avast.com

50371. Re: [TS-520_820_530_830] This is, perhaps, a dumb question.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-03 19:06:13 UTC
From: Tom Maier
Topic: 50228 Message: 50371

I don't know what condition my finals are in. They "look" brand new but I bought the rig at a hamfest last June and so I don't know and have no way to test them. I am returning to Amateur Radio after a 26 year hiatus and have almost nothing in the way of test equipment any more.

The problem with the rig is that the two 10 ohm cathode resistors have blown (apparently NOT for the first time because they are obviously NOT original) with no other visible problem. At this point I am thinking that I will replace the resistors and see what happens. If they blow again, I try getting new finals.

Tom, K3WFN aka "Carvin' Tom"

this msg/post shortened/edited as it contained already posted material. 73 Joe wb7uqu

50372. Re: [TS-520_820_530_830] This is, perhaps, a dumb question.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-03 19:21:26 UTC
From: Tom Maier
Topic: 50228 Message: 50372

Hi Mike,

We have discussed my problems the rig before . The obvious problem with the rig is that the two 10 ohm cathode resistors have blown (apparently NOT for the first time because they are obviously NOT original) with no other visible problems. I'm still don't I understand why they popped.

I briefly considered just replacing the finals just to eliminate them as a problem until I started having trouble finding a pair.

I understand the difference between the 6146, 6146A and 6146Bs and understand that you can swap the first two without question but that switching to the "B" can cause problems because they are really a different tube internally with differences in inter-electrode capacitance, etc.

My rig has two S2001A that "look" brand new (I have no way to test them). That implies that the "B" is the preferred replacement. I can't seem to find two S2001A from any one source and have only found one source for the "B's" and they are some Chinese brand (Sino) that I have never heard of. Internet chatter paints the Chinese tube in a bad light. I hate to drop $50+ on junk tubes.

At this point I am thinking that I will replace the resistors with some 3W Metal film jobs (i.e. non-inductive) and see what happens. If they blow again, then I guess I'll try getting some new finals.

Tom, K3WFN aka "Carvin' Tom"

this msg/post shortened/edited as it contained already posted material. 73 Joe wb7uqu

50373. Re: [TS-520_820_530_830] This is, perhaps, a dumb question.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-03 21:22:46 UTC
From: Mike W5RKL
Topic: 50228 Message: 50373

Tom,

You seem to be convinced you have to find two S2001A final tubes. That's simply not necessary!! As I said, the "S2001A" is the Japanese equivalent to the 6146B!!!

You can simply replace the two S2001As with two 6146Bs, neutralize the final amplifier by following the neutralizing procedure in the operator or service manual, and you're done!!!

You will need a VTVM with an RF probe, a 50 ohm dummy load and the transceiver's operator or service manual.

73
Mike W5RKL
www.w5rkl.com

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http://www.avast.com

50374. Re: [TS-520_820_530_830] This is, perhaps, a dumb question.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-03 22:23:29 UTC
From: Joseph Stiles
Topic: 50228 Message: 50374

Tom,
I agree with Mike. You do not need to find the S2001A's. A couple of good tube suppliers, Mike has already mentioned. 6146B or 6146W will fit the bill and, as Mike stated, you will need to neutralize them after installation.
I will also caution you about installing the 3 watt resistors you mentioned. There are several reasons that the cathode resistors may "pop." Internal short in one or both final tubes, operation with way high Ip, long operation in an "out of tune" condition.

Since you stated that you got the rig at a ham fair, you do not know the history of said rig. I would go over the rectifier/transformer wiring to see if any of the wires do not match the schematic...ie..a possible QRO mod. Also, check for the correct value of the 470 ohm screen resistor on the rectifier board.
Sorry for jumping in
 73 Joe
WB7UQU

On Wednesday, December 3, 2014 1:22 PM, "Mike W5RKL w5rkl@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

  Tom,

You seem to be convinced you have to find two S2001A final tubes. That's simply not necessary!! As I said, the "S2001A" is the Japanese equivalent to the 6146B!!!

You can simply replace the two S2001As with two 6146Bs, neutralize the final amplifier by following the neutralizing procedure in the operator or service manual, and you're done!!!

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73
Mike W5RKL
www.w5rkl.com

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50375. Re: [TS-520_820_530_830] Using an AT-250 Auto Tuner with a TS-830S???

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-03 23:27:26 UTC
From: viragoxv@...
Topic: 50325 Message: 50375

OK, I made up a cable as described above. The pin-out was taken from manual, for transceivers other than the TS-430. The tuner still doesn't make any effort to tune-up.

PLEASE NOTE: The manual's cable pin out connections are shown as the radio and tuner sockets are viewed from the rear of each component. This logic would be the same as the pin-out for the cable connectors as viewed from the rear where the wires are soldered.

Using this logic, I clamped both connectors in a vise, both "key-ways" at 12 o'clock, with the solder ends up, and soldered the wires per the manual. Once complete, I checked the work with a VOM, and it wrung out fine.

I'd love to hear suggestions! BTW, my MFJ-993B tuner works GREAT with my mini-G5RV and the TS-830. The thing which REALLY bugs me is that the AT-250 doesn't make ANY effort to tune-up.

Thoughts? HELP PLEASE!!! 73 Mike, N3QIG

50376. Re: [TS-520_820_530_830] This is, perhaps, a dumb question.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-04 13:59:16 UTC
From: Tom Maier
Topic: 50228 Message: 50376

Do you think that the Sino 6146Bs will be OK? I had read some very disparaging comments regarding the Chinese made tubes.

Tom, K3WFN aka "Carvin' Tom"

50377. Re: [TS-520_820_530_830] This is, perhaps, a dumb question.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-04 14:30:48 UTC
From: Joseph Stiles
Topic: 50228 Message: 50377

Tom,
I see no reason that they should not be 'ok.' Just buy from a dealer/seller that allows returns if they may prove defective. Just havesome more cathode resistors handy...hihi. Many people are using non made in the USA tubes and are quite happy
 73 Joe
WB7UQU

On Thursday, December 4, 2014 6:08 AM, "Tom Maier carvintom@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

  Do you think that the Sino 6146Bs will be OK? I had read some very disparaging comments regarding the Chinese made tubes.

Tom, K3WFN aka "Carvin' Tom"

50378. Re: [TS-520_820_530_830] This is, perhaps, a dumb question.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-04 14:52:29 UTC
From: wagstw46@...
Topic: 50228 Message: 50378

Tom:

I didnt see anyone who really answered you as to "why" your cathode resistors failed apparently more than once.

It is not too hard to figure out.

I have seen the suggestion that if you run high duty cycle modes without lowering Ip that they can fail. I have seen the suggestion that if you routinely perform high off resonance key down times that they will fail. These place the blame on operator error or practice and I submit not very likely. In fact almost impossible.

You can prove that by placing a resistor on the bench and applying 250ma thru it and watching for change in color or for it to begin emitting smoke. You are going to have a very very long wait. Now if you lose the operating bias on the control grids (say it is Zero volts) your IP meter will peg. If you look at the 6146 family of curves you will see with G1 at Zero volts you will have approx 400ma plate current. So increase your current thru the 10 ohm resistor on the bench to 400ma and walk away. Again you will have a very long time if ever for that resistor to fail. Yes it will change value, but you wont see a failure.

P= I squared x R so at 250 ma your cathode resistor will be dissipating .250 x .250 x 10 = .6 watts. So a brick on the key at 250ma IP is not going to cause any distress to your cathode resistors. I will let you work the 400ma case.

I respectively submit that the two purported failure modes provided to you just dont happen. Carbon composition resistors commonly fail in two ways. One is acute failure and the other is chronic. Carbon composition resistors are hygroscopic and they can simply fail due to age. Moisture intrusion causes them to change value and sometimes go to infinity. If old enough the carbon material to lead wire fused interface area can become corroded and go open circuited. This doesnt happen very often with the Cathode meter shunt resistors. I have seen them as high as 8 or 9 ohms, but only time open was due to an acute failure. Inspection of the body will reveal a crack to prove that.

Now lets talk about acute failure. Remove the 10 ohm resistor on your bench that has been cooking for weeks with 250 ma dc load current and take it to your work shop and connect it across your DC arc welder. Set the current to 150amps. Put on your safety googles and/or face shield and turn on the welder ac supply. You will witness an immediate acute failure. There will be an instantaneous "pop" and the carbon body will display a hair line crack or pieces of the body spalled off, or it may disentegrate into shards.

Now ask yourself under what conditions can your radio produce the same currents as your DC welder? It is very simple. Your radio has experienced a 6146 tube arc over and it appears more than once in its life time. That arc over produces the kind of instantaneous fault current that will open the resistor. This is where this fuse debate comes from and I wont pick that scab here.

I and others on this forum have shown the math too many times to repeat again in this response. Simple put if you ignore the power supply ESR and just say that the only thing that limits the plate current is 5 ohms then anytime there is accumulation of off gassing inside the glass envelope and that gas ionizes and a arc is established between the anode and the beam forming plates you now have a very low impedance path for 900vdc to the cathode which results in acute failure of the cathode resistors. So for back of envelope calcs we say the resistors see approx 900/5 = 160 amps.

"Why" is an easy question to answer. When you reach for 35 to 40 year old NOS 6146 finals that have been sitting on shelf off gassing and install them in your radio there is always a chance for an arc over event. Some people have good luck replacing the resistors and using the tubes over. Others are not so lucky and have another arc over and blow the resistors again and then you have a few very unlucky people that have to replace their panel meter.

Yes the tubes have a flash getter that should remain active over all these years but lots of theories why not totally effective. Some believe the entrained bubbles of gas come out and cling to the tube element support members and are not diffused inside the envelope where the remaining active barium can easily oxidize them. I dont know why the getter appears to be less than effective. This subject has been discussed at length here as well.

So as you have been told it may be advisable to pull your S2001A tubes from service and replace them with set of 6146B or 6146Ws (I use the JAN Ws from RF Parts and have had very good luck with them. Absent a DC hi-pot you simply have no way to test the vacuum quality of your S2001A other than in your radio. Nothing wrong with that as long as you understand the jeopardy. Also as you have been told I would not raise the wattage rating of the resistors as you are just transferring the fault current stress to the HV filter capacitors, HV rectifiers, and power transformer that rely on the 6a line fuse fault current clearing time.

Terry K9TW

50379. Re: [TS-520_820_530_830] This is, perhaps, a dumb question.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-04 14:54:07 UTC
From: Mike W5RKL
Topic: 50228 Message: 50379

Tom,

I have no experience with that brand of 6146B so I cannot comment either way.

You might consider reading a few responses on a couple of well known vacuum tube websites selling vacuum tubes, to a question about tubes from China at the following links:

http://www.thetubestore.com/Resources/Matching-and-other-tube-info/Vacuum-Tube-Basics#q6

http://www.vacuumtubes.net/faq.htm#offshore

I have done business with "vacuumtubes.net" and, as I said before numerous times on this group and I'll say it again, I have never received a bad tube from them!!! They stand behind every tube they sell with a warranty, see my last response and their website for their warranty details.

73
Mike W5RKL
www.w5rkl.com

This email has been checked for viruses by Avast antivirus software.
http://www.avast.com

50380. Re: [TS-520_820_530_830] This is, perhaps, a dumb question.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-04 14:52:39 UTC
From: Donald Allen
Topic: 50228 Message: 50380

Surplus Sales of Nebraska has NOS GE 6146B's in stock, as well as GE 6146W's.

http://www.surplussales.com/Collins/Coll32S.html
http://www.surplussales.com/Collins/Coll32S.html

73
Don W9CW

this msg/post shortened/edited as it contained already posted material. 73 Joe wb7uqu

50381. Re: [TS-520_820_530_830] Using an AT-250 Auto Tuner with a TS-830S???

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-04 16:23:52 UTC
From: Joseph Stiles
Topic: 50325 Message: 50381

Mike,
It appears that the MFJ tuner you have has an RF sensing circuit.
Right now, I can not think of why the AT-250 is not working. I think that your cable connections are correct. OK...I must ask...does the AT-250 have power? Either 115VAC or 13.6 VDC with the voltage selection switch in the proper position? Do you have any panel light(s) on?...and while keyed in low power...did you push the "tune" button in the upper right corner?
No disrespect intended...I'm just trying to check of stuff in my brain.
I think that the tuner may have an internal fuse.
 73 Joe
WB7UQU

On Wednesday, December 3, 2014 3:37 PM, "viragoxv@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

  OK, I made up a cable as described above. The pin-out was taken from manual, for transceivers other than the TS-430. The tuner still doesn't make any effort to tune-up.

PLEASE NOTE: The manual's cable pin out connections are shown as the radio and tuner sockets are viewed from the rear of each component. This logic would be the same as the pin-out for the cable connectors as viewed from the rear where the wires are soldered.

Using this logic, I clamped both connectors in a vise, both "key-ways" at 12 o'clock, with the solder ends up, and soldered the wires per the manual. Once complete, I checked the work with a VOM, and it wrung out fine.

I'd love to hear suggestions! BTW, my MFJ-993B tuner works GREAT with my mini-G5RV and the TS-830. The thing which REALLY bugs me is that the AT-250 doesn't make ANY effort to tune-up.

Thoughts? HELP PLEASE!!! 73 Mike, N3QIG

50382. Re: [TS-520_820_530_830] This is, perhaps, a dumb question.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-04 19:33:19 UTC
From: Tom Maier
Topic: 50228 Message: 50382

Thanks, Terry! I am glad you noticed what was missing. I am a retired EE with 44 years of experience andI feel *very *uneasy when I don't know "why" something failed...and you're right, I was getting a lot of advice but very little on the "WHY" end. I don't "think" that I inadvertently caused too much current to flow too long. I only used the the rig for 6 very brief CW contacts before it went and I had quite intentionally kept the power down because I had no idea of the history of the rig. I never tuned up for more than about 150 ma. If I can believe my watt meter, I was pumping out about 50 watts and that seemed to be working very well for me. I can believe thought that despite the fact that the finals "look" pristine they could *easily* have been beaten to death by the previous owner. As it was, he failed to give me the plug for the adapter socket on the back leaving me with a completely dead rig (although it "looked" like it should be working) until I finally figured out that the plug's all important jumper was missing. Once I figured that out, I was off to the races! So, I have ordered some 10 ohm 1W resistors, (metal film to keep the inductance low). I bought 25 (!) *not* because I figure that I will need them, necessarily, but as it was the shipping was near *twice*(!) the cost of the resistors, so why not stock up[?]. I also found a set of new 6146Bs. Hopefully, I be back on the air by Christmas. Tom, K3WFN aka "Carvin' Tom"

50383. Re: [TS-520_820_530_830] Using an AT-250 Auto Tuner with a TS-830S???

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-04 20:21:22 UTC
From: viragoxv@...
Topic: 50325 Message: 50383

Joe,

Thank you SO much for your reply! Don't EVER worry about insulting me....I'm WAY too far down the ladder to be thought of as anything but a Hybrid Newbie! ;-)

Yes, the AT-250 is powered up, with the DC/AC switch in AC, and the power cord plugged in. The meter light is on.

After turning the unit ON via the POWER button, I turn ON the TUNER and TUNE, yet neither light comes on. With the METER set to SWR, and the radio's MODE set to CW or LSB, keying/speaking into the mic shows an SWR of about 4, with no tuner action at all.

At times, typically after the 250 is powered up for a while, the TUNER light comes ON, but I can't seem to identify what happens to cause it to light. When this occurs, turning the TUNE button ON causes the TUNER light to go OFF.

I've taken the top cover off, wiggled the connectors, and assured the CAPS were not stuck. I do not see any internal fuse, and could find none on the schematics.

I've tried all manner of keying the radio in TUNE mode while turning the 250's TUNE and TUNER buttons ON and OFF to no avail.

Clif Holland KA5IPF was kind enough to note "The only thing the AT250 needs to operate with other than a 430 is for Pin 3 on the AT250 cable to be grounded in TX." He adds that "Pin 3 on the AT250 goes to Pin 4 on the remote jack of the 830. The shield on the AT250 end goes to the shield of the plug. The other end goes to Pin 2 on the 830."

I've been tempted manually ground pin #3 on the AT-250, then throw the SEND/REC radio switch to SEND to see if the tuner will run. I guess there's always the chance that the radio's relay, which determines whether a grounded Pin #2 on the radio's REMOTE socket grounds Pin #5 or Pin #4, could be bad.

I wish I could insert .jpg's into these messages to make clear what I'm saying!

Back to you Sir! Mike, N3QIG

50384. Re: [TS-520_820_530_830] This is, perhaps, a dumb question.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-04 20:41:06 UTC
From: wagstw46@...
Topic: 50228 Message: 50384

Tom:

Yes I like to understand the "why" and some good technical people on here do likewise, but as you know sometimes components just get tired and quit and not always possible to determine the root cause.

With your background you understand without measurement much of what we get (often from very well intentioned folks) falls under category of anecdotal, tribal knowledge, folklore. I usually try to couch my responses in terms of what I know and what I believe. Very important that we can all question one another without getting feelings hurt. Hate to bum dope anyone.

One thing I will tell you is to treat every mod and so called KW hybrid service bulletin with skepticism. This is one area where KW did a very poor job. Make sure it makes sense to you before you embark on performing any and good idea to come here and ask about it. Even the troubleshooting charts in the manuals are pretty much shot-gun/easter egging. If you experience a dead receiver you would certainly not as a first step pull the RF board and replace the RF amp dual gate mosfet!

If you decide to use your S2001A tubes and you pop the new cathode resistors, I would not use those tubes again only because of the potential to destroy your panel meter. I see quite a few rigs come across the bench especially TS820S radios with original S2001A tubes that still have good cathode emission and can hold off 2000vdc to 2500vdc during DC hi-pot testing. I think they were quality tubes. However I do see them from time to time where a hole has been sucked into the glass envelope and an accompanying hole melted in the grey metal anode. It is my belief that those tubes experienced thermal run away (loss of operating bias) and did not have an arc over event.

Have fun

Terry K9TW

50385. Re: [TS-520_820_530_830] Using an AT-250 Auto Tuner with a TS-830S???

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-04 20:49:40 UTC
From: Joseph Stiles
Topic: 50325 Message: 50385

Mike,
You can up load various files to the groups home page.You can choose to go to the "photos" area, and over on the right..select 'new album'...entitle your album...ie..."AT-250 to 830S cable connection" or go to the "files" area..look over on the right hand side...select "add folder"...title your folder...and then upload a drawn schematic or something similar. The "files" area does not like .jpg based photos...but may take bitmap. Most files there are text, some with drawings...or CAD generated.
I'm going to try and do some more investigation...this is driving me nuts
 73 Joe
WB7UQU

On Thursday, December 4, 2014 12:35 PM, "viragoxv@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

  Joe,

Thank you SO much for your reply! Don't EVER worry about insulting me....I'm WAY too far down the ladder to be thought of as anything but a Hybrid Newbie! ;-)

Yes, the AT-250 is powered up, with the DC/AC switch in AC, and the power cord plugged in. The meter light is on.

After turning the unit ON via the POWER button, I turn ON the TUNER and TUNE, yet neither light comes on. With the METER set to SWR, and the radio's MODE set to CW or LSB, keying/speaking into the mic shows an SWR of about 4, with no tuner action at all.

At times, typically after the 250 is powered up for a while, the TUNER light comes ON, but I can't seem to identify what happens to cause it to light. When this occurs, turning the TUNE button ON causes the TUNER light to go OFF.

I've taken the top cover off, wiggled the connectors, and assured the CAPS were not stuck. I do not see any internal fuse, and could find none on the schematics.

I've tried all manner of keying the radio in TUNE mode while turning the 250's TUNE and TUNER buttons ON and OFF to no avail.

Clif Holland KA5IPF was kind enough to note "The only thing theAT250 needs to operate with other than a 430 is for Pin 3 on the AT250 cable tobe grounded in TX." He adds that "Pin3 on the AT250 goes to Pin 4 on the remote jack of the 830. The shield on theAT250 end goes to the shield of the plug. The other end goes to Pin 2 on the830."

I've been tempted manually ground pin #3 on the AT-250, then throw the SEND/REC radio switch to SEND to see if the tuner will run. I guess there's always the chance that the radio's relay, which determines whether a grounded Pin #2 on the radio's REMOTE socket grounds Pin #5 or Pin #4, could be bad.

I wish I could insert .jpg's into these messages to make clear what I'm saying!

Back to you Sir! Mike, N3QIG

50386. WTB: Kenwood YG-455C 500Hz Filter

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-05 00:37:01 UTC
From: fghester@...
Topic: 50386 Message: 50386

WTB: Kenwood YG-455C 500Hz Filter. State condition and price. Please respond off list to fghester@yahoo.com Thank you & 73! de Woody Hester / WD9F

50387. New file uploaded to TS-520_820_530_830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-05 13:30:07 UTC
From: TS-520_820_530_830@yahoogroups.com
Topic: 557 Message: 50387

Hello,

This email message is a notification to let you know that
a file has been uploaded to the Files area of the TS-520_820_530_830
group.

File : /Kenwood AT-250 Instruction Manual.pdf
Uploaded by : viragoxvsepa <viragoxv@...>
Description :

You can access this file at the URL:
https://groups.yahoo.com/neo/groups/TS-520_820_530_830/files/Kenwood%20AT-250%20Instructio
n%20Manual.pdf

To learn more about file sharing for your group, please visit:
https://help.yahoo.com/kb/index?page=content&y=PROD_GRPS&locale=en_US&id=SLN15398

Regards,

viragoxvsepa <viragoxv@...>

50388. Re: [TS-520_820_530_830] Using an AT-250 Auto Tuner with a TS-830S???

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-05 13:35:47 UTC
From: viragoxv@...
Topic: 50325 Message: 50388

Joe,

I uploaded the AT-250 manual to the "files" area. Also created a photo album into which I placed a snippet of the AT-250 manual which shows the pin-out for a cable connecting the AT-250 to non-TS-430 radios. There's also a snippet of the pin-out of the REMOTE socket on the TS-830S.

Any thoughts on my idea of manually grounding pin #3 on the AT-250 ACC socket and try trasmitting to see if the tuner moves?

Thanks! 73, Mike, N3QIG

50389. TS-830S VFO Knob Lock/Tightening?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-05 13:22:40 UTC
From: viragoxv@...
Topic: 50389 Message: 50389

Another hybrid 830 Newbie question....

It seems the VFO knob attracts my fat hand regularly! Is there a way to lock the VFO dial or at least tightening it up? I tried holding the main knob while turning the silver ring to the rear, but no tightening seems to take place.

Thoughts? Mike, N3QIG

P.S. - I know this is cheating, but I did try looking in the manual and searching on the net. ;-)

50390. Re: [TS-520_820_530_830] TS-830S VFO Knob Lock/Tightening?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-05 16:46:31 UTC
From: Joseph Stiles
Topic: 50389 Message: 50390

Mike,
There is not, as far a I know, unless you want to drill into your rigs face plate.
You missed the point of the 'silver ring.' It is for calibrating the analog reading of the silver ring and the analog dial with the digital readout.Look at Pg 21,Section 4.7, of the TS-830S Instruction Manual. Between the 'silver ring' and the junction of the main VFO shaft and the inner analog dial are: silver ring, small flat washer, small spring, small flat washer.

There is one possible way...now that I think about it. You can take a 1.5mm allen type wrench....loosen the main tuning knob set screw...and slide it closer to the face plate..so it rubs against it. But then,...you're gonna hear....scrape....scrape...scrape...when you turn the knob
73 Joe
WB7UQU

On Friday, December 5, 2014 6:50 AM, "viragoxv@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Another hybrid 830 Newbie question....
It seems the VFO knob attracts my fat hand regularly! Is there a way to lock the VFO dial or at least tightening it up? I tried holding the main knob while turning the silver ring to the rear, but no tightening seems to take place.
Thoughts? Mike, N3QIG
P.S. - I know this is cheating, but I did try looking in the manual and searching on the net. ;-)
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50391. Re: [TS-520_820_530_830] TS-830S VFO Knob Lock/Tightening?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-05 16:49:17 UTC
From: Joseph Stiles
Topic: 50389 Message: 50391

Mike,
The allen type set screw is 5/64" not 1.5mm as I stated
73 Joe
WB7UQU

On Friday, December 5, 2014 8:46 AM, "Joseph Stiles stilesjoseph@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Mike,
There is not, as far a I know, unless you want to drill into your rigs face plate.
You missed the point of the 'silver ring.' It is for calibrating the analog reading of the silver ring and the analog dial with the digital readout.Look at Pg 21,Section 4.7, of the TS-830S Instruction Manual. Between the 'silver ring' and the junction of the main VFO shaft and the inner analog dial are: silver ring, small flat washer, small spring, small flat washer.

There is one possible way...now that I think about it. You can take a 1.5mm allen type wrench....loosen the main tuning knob set screw...and slide it closer to the face plate..so it rubs against it. But then,...you're gonna hear....scrape....scrape...scrape...when you turn the knob
73 Joe
WB7UQU

On Friday, December 5, 2014 6:50 AM, "viragoxv@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Another hybrid 830 Newbie question....
It seems the VFO knob attracts my fat hand regularly! Is there a way to lock the VFO dial or at least tightening it up? I tried holding the main knob while turning the silver ring to the rear, but no tightening seems to take place.
Thoughts? Mike, N3QIG
P.S. - I know this is cheating, but I did try looking in the manual and searching on the net. ;-)

50392. WARC bands

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-02-23 13:57:21 UTC
From: Tim McMillin
Topic: 47830 Message: 50392

Good Morning All,
My TS830S was produced prior to WARC band approval. Since I am old enough to come from the breadboard era, are there any tips I should know about locating and snipping diodes D4,D5, and D6 in order to enable transmission on these bands- before I invade my virgin 830?
Many thanks,
Tim, WA3GPU

50393. Re: [TS-520_820_530_830] WARC bands

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-05 20:59:55 UTC
From: Joseph Stiles
Topic: 47830 Message: 50393

Tim,
There is no need to snip the diodes, unless you just want to enable 1 or 2 bands.
Take a look at the TS-830S Instruction Manual, Pg 28, Section 6.5.
I find it easier to remove both the top and bottom covers, turn rig upside down...locate the AF Unit...Connector 6, Pin 4...small blue wire. Cut this wire...but leave enough wire length from the connector....and tape up both cut ends. Put on bottom cover...leave top cover off...as you more than likely will need to touch up the associated coils in both RX & TX
 73 Joe
WB7UQU

On Friday, December 5, 2014 12:45 PM, "Tim McMillin mcmillint@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

  Good Morning All,
My TS830S was produced prior to WARC band approval. Since I am old enough to come from the breadboard era, are there any tips I should know about locating and snipping diodes D4,D5, and D6 in order to enable transmission on these bands- before I invade my virgin 830?
Many thanks,
Tim, WA3GPU
<!--

50394. Re: [TS-520_820_530_830] WARC bands

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-05 21:03:19 UTC
From: Mike W5RKL
Topic: 47830 Message: 50394

Tim,

Yes, take the time and thoroughly read the operator's manual before you attempt to operate the TS-830. The answer to your question is in the operator's manual, page27, paragraph 6.5 "TRANSMITTING ON WARC BANDS". You should look to see if the wires or diodes have already been cut before you start snipping anything.

If you do not have the TS-830 operator's manual you can download it from my website

www.w5rkl.com

Click on the Manuals, Docs, and Mods link. When the manual page comes up scroll down to the TS-830 listing and download the TS-830 operator's manual. You should also download the TS-830 service manual while you are at it.

Regardless of your ham radio experience, if you have never operated a Kenwood TS-830 before I recommend you spend time reading/studying the TS-830 operator's manual before you apply power to the transceiver. Learn what each control is for, how to use the controls, what each meter switch position is for (the meter switch positions are active in transmit ONLY, not in receive), how to read the manual, how to read the VFO knob scale, how to check and set the final amplifier's 60ma idling current using the bias pot on the rear panel (must be done before you attempt to transmit!!!), and how to tune the transmitter up using the transmitter tuning procedures outlined in the manual. There are also transmitter tuning procedures on the group's main page in the "FILES" section. Many operator errors can be prevented by spending time reading/studying the operator's manual FIRST before you power up and attempt to operate the TS-830. If you do not understand what the manual is telling you, don't ignore it, ask here so we can help you.

If you do not have a 50 ohm dummy load that has a power rating of at least 300 watts, I recommend you purchase one. MFJ sells a 300 watts dry 50 ohm dummy load, MFJ-260C, for $39. You should use the dummy load whenever you tune the transmitter up. Once the transmitter has been properly tuned then switch to the antenna you intend on using.

73
Mike W5RKL
www.w5rkl.com

This email has been checked for viruses by Avast antivirus software.
http://www.avast.com

50395. Re: [TS-520_820_530_830] This is, perhaps, a dumb question.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-05 21:24:07 UTC
From: james27613@...
Topic: 50228 Message: 50395

I've purchased several sets of finals and the driver tubes from surplus sales, no problems.

USA Made circa 1985 GE tubes new in the box.

73 james ke4drn

50396. Re: [TS-520_820_530_830] TS-830S VFO Knob Lock/Tightening?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-05 21:53:47 UTC
From: viragoxv@...
Topic: 50389 Message: 50396

Joe,

I loosened the set screw, and push the VFO knob against the radio face. It does scrape a little, but I don't plan on using the radio a lot other than on 40 meter nets, so not an issue.

....now I need to get that tuner working! ;-)

Thanks!!! Mike, N3QIG

50397. Simple repairs

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-06 06:26:15 UTC
From: Lou Blasco
Topic: 50389 Message: 50397

Sometimes a fault may look bad but have a simple solution.

My TS830 was working fine until I turned it on one day and found I
couldn't tune for max power. The best I could get into a dummy load
was around 25W.

OBSERVATIONS:

ALC peaks as normal.
Plate idle current is 60mA.
Plate current at max RF output was around 125mA.
During TX the HV meter reads around 400V.
If I turn off the SG switch and go to TX the HV meter reads around 750V.

ASSESSMENT:

The supply was collapsing under load but it's unlikely to be a tube
as the current is not overly high. The HV supply is a pretty simple
voltage doubler. That is probably the first place to look.

OK, NOW it's time to look inside - careful HV can kill you.

A check with a VOM confirms the HV readings from the top of C24 to ground.
Further testing showed the voltage across C22 collapsed to 0V with TX
and SG switch on.
While you have the hood up it would be smart to confirm D1 to D4 are
ok and other related components are ok - they were.
As everything else was fine it seems most likely that C22 is faulty.
Best to replace both capacitors.

ACTION:

When I bought the radio the seller threw in a replacement HV cap kit
from K4EAA. Hmmmmm? Anyway, replacing both caps brought the HV up to
around 950V no load and around 800V on TX and I have 100W on all bands again.

Remember when working on these radios that HV can kill, work
carefully and watch where to put your fingers, meter probes, screw
drivers etc. Also, MEASURE the HV and make sure it is ZERO before you
stick your fingers inside. Don't trust the bleed resistors to do their job.

Also remember Terry's warning regarding the exposed tops of some
replacement caps. There is around 450 volts on the top (negative) of C24.

An hour on the workbench brought a smile to my face.

Regards

Lou
VK3ALB

50398. Re: [TS-520_820_530_830] Simple repairs

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-06 13:12:11 UTC
From: Mike W5RKL
Topic: 50389 Message: 50398

Lou and others,

The first indication that pointed to the source of the problem was the HV meter indication, in transmit, was only "400VDC". That clearly indicated a failure in one of the HV filter capacitors.

All of the KW Hybrid's HV power supply are "voltage doubler" supplies. When one HV filter capacitor fails, the supply's output voltage decreases by 50% which results in low RF output even at maximum drive.

If you do the simple math, multiply the HV of 400VDC by 125ma, the DC input power is only "50 watts" which would result in about half of that being seen at the output.

73
Mike W5RKL
www.w5rkl.com

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50399. CW side tone volume

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-06 16:45:33 UTC
From: asoto66@...
Topic: 50399 Message: 50399

My cw side tone is too loud and I want to adjust the volume. Before I go ahead, does somebody know if the adjustment will only change the audio volume of the oscillator or does it also change the drive volume into the vox circuit? Will the vox gain knob reflect the lower setting? If not, how low can it go in terms of heard volume? I would like it pretty light.
73 de Al, kj3q

50400. Re: [TS-520_820_530_830] CW side tone volume

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-06 16:54:11 UTC
From: Louis Wilen
Topic: 50399 Message: 50400

I don't know for sure about the other hybrids, but in a TS-530S the CW sidetone volume control (on the bottom of the rig) affects only the amplitude of the audio heard on the rig's speaker. It has no effect on anything else.

Louis
W3VVV

On 12/06/2014 11:45 AM, asoto66@... [TS-520_820_530_830] wrote:
>
> My cw side tone is too loud and I want to adjust the volume. Before I
> go ahead, does somebody know if the adjustment will only change the
> audio volume of the oscillator or does it also change the drive volume
> into the vox circuit? Will the vox gain knob reflect the lower
> setting? If not, how low can it go in terms of heard volume? I would
> like it pretty light.
> 73 de Al, kj3q
>
>

50401. Re: [TS-520_820_530_830] CW side tone volume

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-06 18:38:10 UTC
From: Mike W5RKL
Topic: 50399 Message: 50401

What Kenwood hybrid transceiver are you referring to? You have to say what transceiver you are referring to. The following are the CW sidetone level pots that control the sidetone level to the audio amplifier.

The TS-520 series CW sidetone level pot, VR2, on the AF Unit, controls the level of CW sidetone signal applied to the audio amplifier.

The TS-820/820S CW sidetone level pot, VR3, on the AF Unit, controls the level of CW sidetone signal applied to the audio amplifier.

The TS-530 CW sidetone level pot, VR1, on the AF Unit controls the level of CW sidetone signal applied to the audio amplifier.

The TS-830 CW sidetone level pot, VR1, on the AF Unit controls the level of CW sidetone signal applied to the audio amplifier.

Changing the sidetone pot will increase or decrease the level of sidetone heard in the speaker.

73
Mike W5RKL
www.w5rkl.com

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50402. Re: [TS-520_820_530_830] CW side tone volume

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-06 20:10:10 UTC
From: Richard AG5M
Topic: 50399 Message: 50402

Mike's comment about mentioning which hybrid is being talked about is a good idea. Since this group is for all hybrid rigs I'd like to see the radio's model listed first - then whatever the messages is about. e.g., TS-830S No Power Out, TS-520SE No Power Out, etc. Then we don't have to wonder. Just my thoughts. Richard AG5M

On Sat, 12/6/14, Mike W5RKL w5rkl@... [TS-520_820_530_830]
<TS-520_820_530_830@yahoogroups.com> wrote:

Subject: Re: [TS-520_820_530_830] CW side tone volume
To: TS-520_820_530_830@yahoogroups.com
Date: Saturday, December 6, 2014, 10:38 AM

What Kenwood hybrid transceiver
are you
referring to? You have to say what transceiver you are
referring
to. The following are the CW sidetone level pots that
control the
sidetone level to the audio amplifier.

50403. Re: CW side tone volume

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-07 03:35:15 UTC
From: asoto66@...
Topic: 50399 Message: 50403

Sorry for not saying I have a TS-530s model. I've been here long enough to know better. I was using the phone to post and struggling with the interface took some of my CPU cycles and I forgot to provide all the relevant info. I give my own TAC guys grief for this so I take the feedback as deserved. :-).

I rtfm so I know where to make the change but since it is set where the last owner had it (sounds like 11 to me) I was curious if setting it to a very low audio level would affect the vox gain. Stupid me I now realize I was thinking phone usage for the vox.

Regards, Al

50404. Re: [TS-520_820_530_830] Re: CW side tone volume

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-07 12:55:48 UTC
From: Mike W5RKL
Topic: 50399 Message: 50404

Al,

The block diagram on page 29 of the TS-530's operators manual shows the path of the CW side tone oscillator signal through the sidetone level control VR1 and ultimately to the AF Unit's audio amplifier. VR1 side tone signal level has no control over the sideband VOX operation. If you are still unsure simply set the CW sidetone volume control, VR1, to the lowest setting then switch to sideband and test VOX operation into a 50 ohm dummy load. You can always set VR1 to a level that's acceptable to you later on.

73
Mike W5RKL
www.w5rkl.com

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50405. Documentary Photographs

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-08 00:43:40 UTC
From: roberteleazer@...
Topic: 50405 Message: 50405

As I continue my work on recapping, repairing, and rewiring a TS-520, something occurred to me today.

I found the wiring around capacitors C27 and C28 to be so confusing (compounded by a previous owner having screwed up some of it) that I finally opened up my good TS-520 to look at it. That will also help me figure out where the rest of the wires going to the rectifier board should go. I am lucky I had another set to take a look at; you can study the schematic and figure it all out, eventually, but a proper example helps even more than I thought it would.

It occurred to me then that a useful addition to the Group files would be clear, close up photos of the insides of original, unmodified and known functional transceivers to serve as a reference. I am willing to get started on this effort if the Group thinks it worthwhile.

Regards,

Robert
WB5WSV

50406. RE: [TS-520_820_530_830] Documentary Photographs

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-08 01:26:41 UTC
From: Gary Desler
Topic: 50405 Message: 50406

As a newbie it will help me

Thanks,

Gary

AA7YO

"Bad men need nothing more to compass their ends, than that good men should look on and do nothing.”

John Stuart Mill, 2/1/1867

From: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com]
Sent: Sunday, December 7, 2014 4:44 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: [TS-520_820_530_830] Documentary Photographs

As I continue my work on recapping, repairing, and rewiring a TS-520, something occurred to me today.

I found the wiring around capacitors C27 and C28 to be so confusing (compounded by a previous owner having screwed up some of it) that I finally opened up my good TS-520 to look at it. That will also help me figure out where the rest of the wires going to the rectifier board should go. I am lucky I had another set to take a look at; you can study the schematic and figure it all out, eventually, but a proper example helps even more than I thought it would.

It occurred to me then that a useful addition to the Group files would be clear, close up photos of the insides of original, unmodified and known functional transceivers to serve as a reference. I am willing to get started on this effort if the Group thinks it worthwhile.

Regards,

Robert
WB5WSV

50407. Hybrid HF Net Update (December 7, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-08 01:53:48 UTC
From: Mark Gilger
Topic: 50407 Message: 50407

Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

The net started it's existence on November 1st, 2012. The yearly check-in totals are posted at the bottom of this message. It showed we had a 10% increase in our Saturday check-ins and an 8% on Sunday as compared to the 2012 check-ins.

The Saturday's net was run by Jimmy, WB2KNR. There were 25 stations checking in under good band conditions. There were 3 new check-ins: W3DBL, KB3VS, and KD8VME.

We had the following number of radios checking in.

5 running TS-520(x)
4 running TS-530(x)
4 running TS-820(x)
5 running TS-830S
0 running TS-511
0 running TS-511
0 running 599 twins

I was running my Drake 'C' line & Drake L4B amplifier.

The Sunday net was run by me, WB0IQK. There were 21 stations checking in under fair band conditions. There were 5 new check-ins: WB1AJX, KF4OJA, K0HZL, N4JK, and VE3DWI. He had the following number of radios checking in.

4 running TS-520(x)
3 running TS-530(x)
1 running TS-820(x)
2 running TS-830S
0 running TS-510
0 running TS-511
0 running 599 twins

The rest were running non Kenwood hybrid equipment.

He was running my TS-940S + Drake L4B amplifier.

We have been having several people checking in
regularly with their TS-430, TS-440, and
TS-940□s, which of course is not a hybrid,
although over 30+ years old. Everyone is welcome
as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a
net control station, please send me an email.
Currently it's just myself, WB2KNR and WB0SGA. I
would like to get several more. If we do, we can
alternate so everyone might be on a 3-4 week
rotation. It's a lot of fun and a good way to
make sure you station is optimized.

For anyone that has not heard, we have a new web
site that WB4HFN is hosting. He currently has a
very nice site for Drake, Collins and Heathkit
and now Kenwood Hybrids. Good quality manuals
plus sale flyers and brochures will be found
here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 □ Oct. 2012 Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins
Nov. 2013 - Oct. 2014 Saturdays total 842 check-ins, Sunday total 744 check-ins

November 2014, Saturday□s net total 142, Sunday□s total = 88

December 2014, Saturday□s net total 20, Sunday□s total = 21 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

50408. TS-520S back on the air

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-08 18:50:37 UTC
From: howard.rowland@...
Topic: 50408 Message: 50408

Hi everyone,
I got my TS-520S back on the air this weekend. I have been inactive for 30 years and it has been sitting all that time. I bought it new in Dec. 1979 from Hoosier Electronics in IN. I paid $580 according to my logbook, a lot at the time for a college student!
I cleaned up the bandswitch contacts, cleaned the variable cap wipers including the VFO, replaced some of the electrolytic caps, adjusted the DC voltages, and touched up the alignment. It still has the original driver and final tubes. I get good ALC indication and it is loading up well.
I was on the air on 80, 40, and 20 and it is working great. I also made a CW contact today on 20M, it bit tough copying but I managed. I enjoyed using a straight key in the past and it was good to do this again.

73,
Howard WB1AJX

50409. Re: [TS-520_820_530_830] TS-520S back on the air

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-08 19:41:55 UTC
From: Joseph Stiles
Topic: 50408 Message: 50409

Howard,
That's and excellent story. Not many will keep a rig like that sitting around...but now you know the dividend!. Keep a watch on your HV caps to make sure they are not leaking...which could lead to a catastrophic event if one or both fail.
This group, with the assistance of wb4hfn, has a data base regarding the KW hybrids. Contact Ron...via wb4hfn "dot" com and give him the info...model, serial #, date purchased, and from where (if known), to be preserved for posterity.
73 Joe
WB7UQU

On Monday, December 8, 2014 11:17 AM, "howard.rowland@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Hi everyone,I got my TS-520S back on the air this weekend. I have been inactive for 30 years and it has been sitting all that time. I bought it new in Dec. 1979 from Hoosier Electronics in IN. I paid $580 according to my logbook, a lot at the time for a college student!I cleaned up the bandswitch contacts, cleaned the variable cap wipers including the VFO, replaced some of the electrolytic caps, adjusted the DC voltages, and touched up the alignment. It still has the original driver and final tubes. I get good ALC indication and it is loading up well.I was on the air on 80, 40, and 20 and it is working great. I also made a CW contact today on 20M, it bit tough copying but I managed. I enjoyed using a straight key in the past and it was good to do this again.
73,Howard WB1AJX
<!--

50410. Re: TS-520S back on the air

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-08 19:32:40 UTC
From: howard.rowland@...
Topic: 50408 Message: 50410

Correction, I bought the 520S new in Dec 1977.

Howard
WB1AJX

50411. Re: [TS-520_820_530_830] TS-520S back on the air

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-08 20:43:21 UTC
From: Tom Maier
Topic: 50408 Message: 50411

Hi, Howard,

I just got back on after 26 years and also currently have a 520 that is "on the bench" waiting for parts. Welcome back!

Tom, K3WFN aka "Carvin' Tom"

50412. TS-820S vs 830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-08 20:50:46 UTC
From: Rory
Topic: 50412 Message: 50412

So why did the 830S drop the RTTY function? Looks like I want the 820S if I want to do RTTY FSK.

Thanks

Rory
N6OIL

50413. Re: TS-820S vs 830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-08 21:56:42 UTC
From: w5rkl@...
Topic: 50412 Message: 50413

I have no idea why Kenwood didn't include FSK as a mode in the TS-830S.

The TS-820's "FSK" mode actually shifts the RF carrier based on the jumper settings outlined in the 820 operator's manual (170Hz or 850Hz).

You can operate RTTY using the TS-830, all you need is a sound card interface and your computer running free RTTY software you can find on the web. Many RTTY operators operate VOX, keeps the number of connections between the computer, sound card, and transceiver to a minimum.

Typical power output using RTTY is between 25 and 35 watts. Keep transmit times short and keep the MIC gain set to a level where no ALC is indicated.

I operated RTTY using a Kenwood TS-520SE for years using a "Flesher TU-170" and a Model 28 KSR.

73
Mike W5RKL
W5RKL http://www.w5rkl.com

W5RKL http://www.w5rkl.com Welcome to my Amateur Radio website. 73 Mike W5RKL email: w5rkl@yahoo.com

View on www.w5rkl.com http://www.w5rkl.com
Preview by Yahoo

50414. Re: [TS-520_820_530_830] Re: TS-820S vs 830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-08 22:09:28 UTC
From: Craig Roberts
Topic: 50412 Message: 50414

I use my TS-830S with a SignaLink USB interface and the simple and free MMTTY software for enjoyable AFSK RTTY. For "pure" FSK RTTY, it's my TS-940S at work. It is curious, however, that Kenwood omitted an FSK mode from the 830 then resumed it in later models. In on-air practice, however, I don't find any real difference between AFSK and FSK RTTY. Maybe the guy on the other end does, but nobody's ever uttered a critical word.

73,

Craig
W3CRR

50415. Listening to your own transmission

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-09 06:25:50 UTC
From: Lou Blasco
Topic: 50412 Message: 50415

Hi All,

Sometimes it would be nice to listen to your transmitter output to make sure everything is ok before you get on the air. I don't know about you but I find it difficult to assess my own voice in a set of headphones or listen to my transmission off air through another radio. Asking for on air reports is a bit of a lottery, and I've heard excellent reports given for what were clearly terrible transmissions.

There has to be a better way.

Then it occurred to me that I had the perfect audio source on hand to feed into my radio. Not too far from home I have a number of 50kW MW radio stations that have really good balanced audio, no compression, no music, just talking and both male & female voices depending on programming. Because the transmitters are so powerful the audio is clear and noise free. I made up my own version of the W2IHY iBox http://www.w2ihy.com/ibox-kit.html (the manual is right there for downloading) and connected my MW radio to the input of my transmitter.

Now I can run my transmitter into a dummy load at full power and listen to the result on another receiver. There's usually enough leakage from the dummy load to make a really big signal in the shack. Depending on the TX power and the amount of leakage it may be necessary to use only a short piece of wire in the antenna socket of the receiver.

Now I have an easy way to check my transmitters without having to rely on the opinion of others.

Warning 1: Don't transmit into an antenna when you do this as you will surely be breaking the law by re-broadcasting commercial content.

Warning 2: Your Kenwood is not a broadcast transmitter - don't leave it in TX all afternoon so you can listen to the ball game on HF.

Interesting experiment 1:

Using a PEP wattmeter adjust your mic gain until you're hitting 100W on voice peaks. What is your ALC meter reading?

Interesting experiment 2:

Don't touch those dials, just switch your wattmeter to average reading. What does the wattmeter read now?

Interesting experiment 3:

Go to the receiver and tune either side of your transmission and make a note of where you can no longer hear your signal. Now crank up the mic gain and watch your ALC meter and listen for the increase in noise either side of your transmission. Does this explain why your mic gain and ALC meter are so important? Can you hear any difference in your transmission when the ALC is full scale?

Obviously this is only for testing purposes and you shouldn't run your transmitter for hours in this configuration. I'm sure I'm not the first one to think of this but I think it makes testing transmitters easy and fun.

Regards

Lou
VK3ALB

50416. Re: [TS-520_820_530_830] Listening to your own transmission

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-09 14:47:55 UTC
From: K5MYJ
Topic: 50412 Message: 50416

If you had a Kenwood SM-220 you could use the TWO TONE generator to test you transmitter. This is the way you check linearity!

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"
----- Original Message -----
From: Lou Blasco radio@... [TS-520_820_530_830]
To: TS-520_820_530_830@yahoogroups.com
Sent: Monday, December 08, 2014 10:25 PM
Subject: [TS-520_820_530_830] Listening to your own transmission

Hi All,

Sometimes it would be nice to listen to your transmitter output to make sure everything is ok before you get on the air. I don't know about you but I find it difficult to assess my own voice in a set of headphones or listen to my transmission off air through another radio. Asking for on air reports is a bit of a lottery, and I've heard excellent reports given for what were clearly terrible transmissions.

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Regards

Lou
VK3ALB

50417. Re: [TS-520_820_530_830] Listening to your own transmission

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-09 16:06:19 UTC
From: W5RKL
Topic: 50412 Message: 50417

Lou and others,

I'm sorry but I do not support this recommended method of testing. There are too many inexperienced hams/members on this group that could easily make a mistake and end up violating FCC part 97.

73
Mike W5RKL
Yahoo TS_520_820_530_830 Group Moderator

On 12/9/2014 12:25 AM, Lou Blasco radio@...
[TS-520_820_530_830] wrote:
>
> Hi All,
>
> Sometimes it would be nice to listen to your transmitter output to
> make sure everything is ok before you get on the air. I don't know
> about you but I find it difficult to assess my own voice in a set of
> headphones or listen to my transmission off air through another radio.
> Asking for on air reports is a bit of a lottery, and I've heard
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> There has to be a better way.
>
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> feed into my radio. Not too far from home I have a number of 50kW MW
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> <http://www.w2ihy.com/ibox-kit.html> (the manual is right there for
> downloading) and connected my MW radio to the input of my transmitter.
>
> Now I can run my transmitter into a dummy load at full power and
> listen to the result on another receiver. There's usually enough
> leakage from the dummy load to make a really big signal in the shack.
> Depending on the TX power and the amount of leakage it may be
> necessary to use only a short piece of wire in the antenna socket of
> the receiver.
>
> Now I have an easy way to check my transmitters without having to rely
> on the opinion of others.
>
> *Warning 1:*Don't transmit into an antenna when you do this as you
> will surely be breaking the law by re-broadcasting commercial content.

>
> *Warning 2:*Your Kenwood is not a broadcast transmitter - don't leave
> it in TX all afternoon so you can listen to the ball game on HF.
>
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>
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> on voice peaks. What is your ALC meter reading?
>
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>
> *Don't touch those dials, just switch your wattmeter to average
> reading. What does the wattmeter read now?
>
> *Interesting experiment 3:
>
> *Go to the receiver and tune either side of your transmission and make
> a note of where you can no longer hear your signal. Now crank up the
> mic gain and watch your ALC meter and listen for the increase in noise
> either side of your transmission. Does this explain why your mic gain
> and ALC meter are so important? Can you hear any difference in your
> transmission when the ALC is full scale?
>
> Obviously this is only for testing purposes and you shouldn't run your
> transmitter for hours in this configuration. I'm sure I'm not the
> first one to think of this but I think it makes testing transmitters
> easy and fun.
>
> Regards
>
> Lou
> VK3ALB
>
>
>

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http://www.avast.com

50418. Re: [TS-520_820_530_830] Listening to your own transmission

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-09 07:34:48 UTC
From: Michael Rolph
Topic: 50412 Message: 50418

My way of listening to my audio is quite simple, I load up Hack green web SDR on the laptop and tune to a freq same as the rig and turn AF gain right down on the rig and transmit. I then hear myself exactly as someone else would. There must be other web SDR setups in most localities where you can do a similar check. 73 de Mike M0MCY

50419. Re: [TS-520_820_530_830] 520S Parting out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-09 18:08:31 UTC
From: driftwood7@...
Topic: 50242 Message: 50419

My ham brother in law need a board # 43-1100-00 for his TS 520S .Do you know where he could find and buy one He said he could put out 30.00 Thanks Irv

50420. Re: [TS-520_820_530_830] 520S Parting out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-09 19:44:18 UTC
From: w5rkl@...
Topic: 50242 Message: 50420

irv,

Have your brother contact Bob Mansker, ke5ftf at mail dot com. Bob has quite a few TS-520 spare parts.

73
Mike W5RKL

50421. Re: [TS-520_820_530_830] Listening to your own transmission

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-09 20:06:02 UTC
From: John Davidson
Topic: 50412 Message: 50421

Are those websites only available to dues paying members? I am not interested in paying $$$ out to listen. My radio is Ham Radio...CW is Real Radio
73, John...K8JD
From: "Michael Rolph m0mcy1949@... [TS-520_820_530_830]"
<TS-520_820_530_830@yahoogroups.com>
To: TS-520_820_530_830@yahoogroups.com
Sent: Tuesday, December 9, 2014 2:34 AM
Subject: Re: [TS-520_820_530_830] Listening to your own transmission

My way of listening to my audio is quite simple, I load up Hack green web SDR on the laptop and tune to a freq same as the rig and turn AF gain right down on the rig and transmit. I then hear myself exactly as someone else would. There must be other web SDR setups in most localities where you can do a similar check. 73 de Mike M0MCY

50422. Re: [TS-520_820_530_830] Listening to your own transmission

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-09 20:50:14 UTC
From: Guy Morgan
Topic: 50412 Message: 50422

I can’t speak for other sites but Hack Green is definitely free. I use it myself sometimes for exactly the purpose you’ve suggested. Listen to Hack Green on cans while transmitting.

73

Guy

From: mailto:TS-520_820_530_830@yahoogroups.com
Sent: Tuesday, December 9, 2014 8:06 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830] Listening to your own transmission

Are those websites only available to dues paying members?
I am not interested in paying $$$ out to listen.

My radio is Ham Radio...CW is Real Radio
73, John...K8JD

From: "Michael Rolph m0mcy1949@... [TS-520_820_530_830]"
<TS-520_820_530_830@yahoogroups.com>
To: TS-520_820_530_830@yahoogroups.com
Sent: Tuesday, December 9, 2014 2:34 AM
Subject: Re: [TS-520_820_530_830] Listening to your own transmission

My way of listening to my audio is quite simple, I load up Hack green web SDR on the laptop and tune to a freq same as the rig and turn AF gain right down on the rig and transmit. I then hear myself exactly as someone else would. There must be other web SDR setups in most localities where you can do a similar check. 73 de Mike M0MCY

50423. RE: [TS-520_820_530_830] Listening to your own transmission

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-09 20:54:12 UTC
From: Alan Lewis
Topic: 50412 Message: 50423

No, free to use.

<http://hackgreensdr.org:8901> http://hackgreensdr.org:8901

Accessible from PC and tablet (iPad, android). Very useful website run by Joe Bell. There are others, google 'websdr" or "websdr usa" for sites.

Brgds

Alan M6XRE

From: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com]
Sent: 09 December 2014 20:06
To: TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830] Listening to your own transmission

Are those websites only available to dues paying members?

I am not interested in paying $$$ out to listen.

My radio is Ham Radio...CW is Real Radio
73, John...K8JD

Subject: Re: [TS-520_820_530_830] Listening to your own transmission

My way of listening to my audio is quite simple, I load up Hack green web SDR on the laptop and tune to a freq same as the rig and turn AF gain right down on the rig and transmit. I then hear myself exactly as someone else would. There must be other web SDR setups in most localities where you can do a similar check. 73 de Mike M0MCY

<https://groups.yahoo.com/neo/groups/TS-520_820_530_830/conversations/messages/50421;_ylc=X3oDMTJxY2dtbjRzBF9TAzk3MzU5NzE0BGdycElkAzc1MjUwMjEEZ3Jwc3BJZAMxNzA1MDYzMTA4BG1zZ0lkAzUwNDIxBHNlYwNmdHIEc2xrA3JwbHkEc3RpbWUDMTQxODE1NTgzNw--?act=reply&messageNum=50421> Reply via web post

•

<mailto:k8jd@...?subject=Re%3A%20%5BTS-520_820_530_830%5D%20Listening%20to%20your%20own%20transmission> Reply to sender

•

<mailto:TS-520_820_530_830@yahoogroups.com?subject=Re%3A%20%5BTS-520_820_530_830%5D%20Listening%20to%20your%20own%20transmission> Reply to group

•

<https://groups.yahoo.com/neo/groups/TS-520_820_530_830/conversations/newtopic;_ylc=X3oDMTJlZjJyY3BvBF9TAzk3MzU5NzE0BGdycElkAzc1MjUwMjEEZ3Jwc3BJZAMxNzA1MDYzMTA4BHNlYwNmdHIEc2xrA250cGMEc3RpbWUDMTQxODE1NTgzNw--> Start a New Topic

•

<https://groups.yahoo.com/neo/groups/TS-520_820_530_830/conversations/topics/50412;_ylc=X3oDMTM2Zjk2dGk2BF9TAzk3MzU5NzE0BGdycElkAzc1MjUwMjEEZ3Jwc3BJZAMxNzA1MDYzMTA4BG1zZ0lkAzUwNDIxBHNlYwNmdHIEc2xrA3Z0cGMEc3RpbWUDMTQxODE1NTgzNwR0cGNJZAM1MDQxMg--> Messages in this topic (8)

<https://groups.yahoo.com/neo/groups/TS-520_820_530_830/info;_ylc=X3oDMTJlYnJyb3ZkBF9TAzk3MzU5NzE0BGdycElkAzc1MjUwMjEEZ3Jwc3BJZAMxNzA1MDYzMTA4BHNlYwN2dGwEc2xrA3ZnaHAEc3RpbWUDMTQxODE1NTgzNw--> Visit Your Group

· <https://groups.yahoo.com/neo/groups/TS-520_820_530_830/members/all;_ylc=X3oDMTJmZzRnMWlsBF9TAzk3MzU5NzE0BGdycElkAzc1MjUwMjEEZ3Jwc3BJZAMxNzA1MDYzMTA4BHNlYwN2dGwEc2xrA3ZtYnJzBHN0aW1lAzE0MTgxNTU4Mzc-> New Members 6

· <https://groups.yahoo.com/neo/groups/TS-520_820_530_830/photos/photostream;_ylc=X3oDMTJmbGQ3bHE5BF9TAzk3MzU5NzE0BGdycElkAzc1MjUwMjEEZ3Jwc3BJZAMxNzA1MDYzMTA4BHNlYwN2dGwEc2xrA3ZwaG90BHN0aW1lAzE0MTgxNTU4Mzc-> New Photos 2

<https://groups.yahoo.com/neo;_ylc=X3oDMTJkbWdycWhwBF9TAzk3NDc2NTkwBGdycElkAzc1MjUwMjEEZ3Jwc3BJZAMxNzA1MDYzMTA4BHNlYwNmdHIEc2xrA2dmcARzdGltZQMxNDE4MTU1ODM3> Image removed by sender. Yahoo! Groups

• <https://info.yahoo.com/privacy/us/yahoo/groups/details.html> Privacy • <mailto:TS-520_820_530_830-unsubscribe@yahoogroups.com?subject=Unsubscribe> Unsubscribe • <https://info.yahoo.com/legal/us/yahoo/utos/terms/> Terms of Use

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[Non-text portions of this message have been removed]

50424. Re: [TS-520_820_530_830] Listening to your own transmission

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-09 21:58:34 UTC
From: Craig Roberts
Topic: 50412 Message: 50424

A nice fellow in New Jersey -- Jeff Kelly, K2SDR -- maintains a great WebSDR site. It's free to use, too.

http://www.k2sdr.dyndns.org:8902/

As with many of these sites, an audio recorder is incorporated so you can record, download and play back your dulcet tones at your leisure.

73,

Craig
W3CRR

>

50425. Re: [TS-520_820_530_830] Listening to your own transmission

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-09 22:20:12 UTC
From: Jan Servaites
Topic: 50412 Message: 50425

Craig,
Very nice. I haven't seen this one before. W4AX had a wonderful Web-SDR station, but he closed it up and year ago.
Jan N8CBX

Craig Roberts crgrbrts@... [TS-520_820_530_830] wrote:

>
>
> A nice fellow in New Jersey -- Jeff Kelly, K2SDR -- maintains a great
> WebSDR site. It's free to use, too.
>
> http://www.k2sdr.dyndns.org:8902/
>
> As with many of these sites, an audio recorder is incorporated so you
> can record, download and play back your dulcet tones at your leisure.
>
> 73,
>
> Craig
> W3CRR
>
>
>
>

50426. Re: [TS-520_820_530_830] TS-830S VFO Knob Lock/Tightening?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-10 12:22:08 UTC
From: viragoxv@...
Topic: 50389 Message: 50426

FYI....It was suggested I use a couple pieces of felt behind the knob, then snug it up....worked great! Cut out a couple discs of felt material and you're good to go!!!

Mike, N3QIG

50427. Re: [TS-520_820_530_830] Using an AT-250 Auto Tuner with a TS-830S???

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-10 12:25:37 UTC
From: viragoxv@...
Topic: 50325 Message: 50427

Just wanted to thank everyone for their efforts in trying to help with this issue.

For now, I'll button up the radio and tuner and wait for more ideas! There's GOT to be an answer!

Thanks again! Mike, N3QIG

50428. Re: [TS-520_820_530_830] 520S Parting out

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-09 20:50:07 UTC
From: John
Topic: 50242 Message: 50428

I have emailed him but he dont respond Irv

On 12/9/2014 2:44 PM, w5rkl@... [TS-520_820_530_830] wrote:
>
> irv,
>
> Have your brother contact Bob Mansker, ke5ftf at mail dot com. Bob has
> quite a few TS-520 spare parts.
>
> 73
> Mike W5RKL
>
>

This email is free from viruses and malware because avast! Antivirus protection is active.
http://www.avast.com

50429. Re: TS-830S VFO Knob Lock/Tightening?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-10 15:36:11 UTC
From: wagstw46@...
Topic: 50389 Message: 50429

Vast majority of people (including me for my customers) spend time adjusting VFO knob clearance so it does not produce any drag/rubs from lock to lock, they purchase expensive weighted flywheel knobs, they apply PTFE based lubricants to the gear train all in an effort to produce quiet and silky smooth operation.

I even once had a rig come across the bench where fellow bored a hole in front panel and mounted a small belt drive crank to slow down the tuning rate on his TS-830. A real butcher job.

What an interesting world!

Terry K9TW

50430. Re: [TS-520_820_530_830] Re: TS-830S VFO Knob Lock/Tightening?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-10 15:50:31 UTC
From: Jan Servaites
Topic: 50389 Message: 50430

I'm rebuilding some Yaesu FT901/FT902 radios and the factory applied grease to all the front panel knobs and now that grease is like a glue. You can hardly turn any knob now.
So they all need to be cleaned or treated with a Deoxit chemical. The planetary drives for the plate tuning & preselect all have to be disassembled and cleaned in lacquer thinner and relubed.
Jan N8CBX

50431. Re: [TS-520_820_530_830] Re: TS-830S VFO Knob Lock/Tightening?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-10 16:16:44 UTC
From: wagstw46@...
Topic: 50389 Message: 50431

Jan

You have no way of knowning if it is factory lubricant or not. Most likely it is but cant tell for sure.

After cleaning try lubing with very small amount of Tri-Flow applied with an artist brush or Magna Lube G. Doesnt require very much.

I find that the "Jackson" reduction drives on the KW hybrids Tank capacitor are commonly stiff. Have to remove them and remove the small ball bearings and spring and remove all the hardened grease of the balls and races. I reassemble using Magna lube. Kind of a tedious task but usually get good results.

Terry K9TW

---In TS-520_820_530_830@yahoogroups.com, <jservaites@...> wrote :

I'm rebuilding some Yaesu FT901/FT902 radios and the factory applied grease to all the front panel knobs and now that grease is like a glue. You can hardly turn any knob now.
So they all need to be cleaned or treated with a Deoxit chemical. The planetary drives for the plate tuning & preselect all have to be disassembled and cleaned in lacquer thinner and relubed.
Jan N8CBX

50432. Re: [TS-520_820_530_830] Re: TS-830S VFO Knob Lock/Tightening?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-10 16:48:11 UTC
From: Jan Servaites
Topic: 50389 Message: 50432

Terry,
All three Yaesu FTs have frozen knobs from a solidified grease, so statistically speaking, I would conclude its a factory applied lube (and its causing some green corrosion on all the brass)
Were did you get the Tri-Flow lube from a bike shop? I remember using a chain lube of the same name 10-20 years ago.
I'm using various lubes from MCM Electronics, including the Deoxit product line.
Jan N8CBX

wagstw46@... [TS-520_820_530_830] wrote:

>
>
> Jan
>
>
> You have no way of knowning if it is factory lubricant or not. Most
> likely it is but cant tell for sure.
>
> After cleaning try lubing with very small amount of Tri-Flow applied
> with an artist brush or Magna Lube G. Doesnt require very much.
>
> I find that the "Jackson" reduction drives on the KW hybrids Tank
> capacitor are commonly stiff. Have to remove them and remove the small
> ball bearings and spring and remove all the hardened grease of the
> balls and races. I reassemble using Magna lube. Kind of a tedious task
> but usually get good results.
>
> Terry K9TW
>
>
>

50433. Re: [TS-520_820_530_830] Re: TS-830S VFO Knob Lock/Tightening?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-10 17:02:17 UTC
From: Mark Gilger
Topic: 50389 Message: 50433

I bought some last year off of ebay. Good stuff...

http://www.ebay.com/itm/Krylon-Tri-Flow-2oz-Squeeze-Bottle-Lubricant-w-Teflon-for-corroded-bolts-21010TF-/131374448862?hash=item1e968700de&item=131374448862&pt=Motors_Automotive_Tools&vxp=mtr

Mark, WB0IQK

50434. Re: [TS-520_820_530_830] Re: TS-830S VFO Knob Lock/Tightening?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-11 00:19:07 UTC
From: glen.e77is@...
Topic: 50389 Message: 50434

Terry K9TW
Thanks for the previous advice on using thin lube on my Ts-830 VFO shaft. There was a build-up that was binding the shaft.
* Was able to obtain a tube of
GC Electronics Reach-All Pen OIler, #10-985 , from Jameco.
* Applying partial drop and waiting and slowing working shaft,

repeated several times , loosened the shaft.
* The Kenwood works smoothly now.

* This rig is a Cadillac
... glad to have the Kenwood and this group for advice.
Glen Ellis, KK4LPG

50435. Re: [TS-520_820_530_830] Re: TS-830S VFO Knob Lock/Tightening?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-11 01:06:31 UTC
From: wagstw46@...
Topic: 50389 Message: 50435

Glen

Wouldnt it have been nice to have been able to buy a new TS-830S along with all the matching accessories. A pretty big hit on the family budget back then.

There was a time when it was a contesters favorite and in full filter config a CW ops favorite. It can still hold its own today.

Like all the hybrids it has some unique issues that presents some challenges as it ages and is passed thru lots of hands.

Best of all worlds is to own or have owned all of the KW hybrids at one time or another. Many of us buy and sell regularly and in my case almost always regret selling! I have two full filtered gold emblem 830s and no plans anytime soon to sell. Unless I could upgrade to a pristine 6 or 7 million series one.

Enjoy your "cadillac".

Terry K9TW

50436. Re: [TS-520_820_530_830] Re: TS-830S VFO Knob Lock/Tightening?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-11 13:06:58 UTC
From: Mike McHugh
Topic: 50389 Message: 50436

Amen Terry.....(K9TW)

Mike (KD2DYY)
520s/830/590 owner

50437. TS830S marker problem

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-11 20:32:49 UTC
From: Jim Showker
Topic: 50325 Message: 50437

Hi all,
Haven't been truly stumped for a while, but have a marker problem that will not relent.

The marker gives strong 100khz markers but 18khz or so markers in between with /lots/ of birdies and noise. I have replaced all three transistors in the marker gen on the PLL board, and the D1 switching diode on the RF board. It was intermittent, then seemed to be fixed after one of the components I changed, then showed up again, and now is full time. I have checked every component in and around the circuit, all seem to be good. The 100 khz signal from the PLL is good.

This problem showed up once before in another 830S, just one or two times, and then went solidly good. Never appeared again, so I didn't figure out then what was wrong either.

Thanks for any ideas.
Jim

50438. Re: [TS-520_820_530_830] TS830S marker problem

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-11 22:18:09 UTC
From: Craig Roberts
Topic: 50325 Message: 50438

/Jim Showker wrote://
/
> /"This (marker) problem showed up once before in another 830S, just
> one or two times, and then went solidly good. Never appeared again,
> so I didn't figure out then what was wrong either./

Simple. Gremlins!

73,

Craig
W3CRR

50439. RE: [TS-520_820_530_830] TS830S marker problem

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-11 23:21:21 UTC
From: fpath fpath
Topic: 50325 Message: 50439

Jim,

Sounds very much like dry joint or component that as it heats up goes out of specs, had one on a 830s some years back, ended up being the molex connector. Have you tried high magnification and good light source, would typically look at the molex pins\tracks and then around the marker component section.

73s

Dave

VK5PDL

.

50440. Re: TS830S marker problem

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-12 01:48:20 UTC
From: wagstw46@...
Topic: 50325 Message: 50440

The TS-830 RF Board schematic calls out the Marker "block diode" D1 as a 1S1527. This is wrong. It is a 1S1587 which is an ultra fast switching diode. If you used an NTE-177 that is not a good sub. I would try a NTE-519 or a 1N4148.

If D1 is shorted you will have many birdies across the VFO range with most prominent at 1.9mhz. Birdies will be present approx every 18khz with the Marker turned off. Rig on dummy load.

Unplug Conn 3 Pin 2 on RF board and read the cathode of D1. Should be approx 1.7meg to chassis grd.

With the Marker ON Conn 3 Pin 2 should read 1.8vdc and MS should read "0" vdc. With Marker OFF Conn 3 Pin 2 and MS should read 8.9vdc (Conn 8 Pin 3 on PLL board).

With shorted or leaky block diode will read approx 6.9 to 7.2vdc at MS and Conn 3 Pin 2.

I would try another block diode. Never seen Q30, 31, 32 bad.

Terry K9TW

50441. Kenwood Rubber Feet & Extensions

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-12 03:09:21 UTC
From: Richard AG5M
Topic: 50325 Message: 50441

My TS-830S has two rubber feet on the front to raise it up at an angle. But my TS-940S does not. Anyone know where I can buy the extension feet for the Kenwoods so I can make them all the same height on the operating table? Thank you, Richard AG5M

50442. Re: [TS-520_820_530_830] Kenwood Rubber Feet & Extensions

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-12 04:26:01 UTC
From: Craig Roberts
Topic: 50325 Message: 50442

My 940' s front feet extend to tilt the radio. Twist to unlock, pull to extend and twist again to lock. The feet on mine are plastic.

73,

Craig
W3CRR

On December 11, 2014, at 22:09, "Richard AG5M ag5m@yahoo.com [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

My TS-830S has two rubber feet on the front to raise it up at an angle. But my TS-940S does not. Anyone know where I can buy the extension feet for the Kenwoods so I can make them all the same height on the operating table? Thank you, Richard AG5M

<!-- #ygrp-mkp { border: 1px solid #d8d8d8; font-family: Arial; margin: 10px 0; padding: 0 10px; } #ygrp-mkp hr { border: 1px solid #d8d8d8; } #ygrp-mkp #hd { color: #628c2a; font-size: 85%; font-weight: 700; line-height: 122%; margin: 10px 0; } #ygrp-mkp #ads { margin-bottom: 10px; } #ygrp-mkp .ad { padding: 0 0; } #ygrp-mkp .ad p { margin: 0; } #ygrp-mkp .ad a { color: #0000ff; text-decoration: none; } #ygrp-sponsor #ygrp-lc { font-family: Arial; } #ygrp-sponsor #ygrp-lc #hd { margin: 10px 0px; font-weight: 700; font-size: 78%; line-height: 122%; } #ygrp-sponsor #ygrp-lc .ad { margin-bottom: 10px; padding: 0 0; } #actions { font-family: Verdana; font-size: 11px; padding: 10px 0; } #activity { background-color: #e0ecee; float: left; font-family: Verdana; font-size: 10px; padding: 10px; } #activity span { font-weight: 700; } #activity span:first-child { text-transform: uppercase; } #activity span a { color: #5085b6; text-decoration: none; } #activity span span { color: #ff7900; } #activity span .underline { text-decoration: underline; } .attach { clear: both; display: table; font-family: Arial; font-size: 12px; padding: 10px 0; width: 400px; } .attach div a { text-decoration: none; } .attach img { border: none; padding-right: 5px; } .attach label { display: block; margin-bottom: 5px; } .attach label a { text-decoration: none; } blockquote { margin: 0 0 0 4px; } .bold { font-family: Arial; font-size: 13px; font-weight: 700; } .bold a { text-decoration: none; } dd.last p a { font-family: Verdana; font-weight: 700; } dd.last p span { margin-right: 10px; font-family: Verdana; font-weight: 700; } dd.last p span.yshortcuts { margin-right: 0; } div.attach-table div div a { text-decoration: none; } div.attach-table { width: 400px; } div.file-title a, div.file-title a:active, div.file-title a:hover, div.file-title a:visited { text-decoration: none; } div.photo-title a, div.photo-title a:active, div.photo-title a:hover, div.photo-title a:visited { text-decoration: none; } div#ygrp-mlmsg #ygrp-msg p a span.yshortcuts { font-family: Verdana; font-size: 10px; font-weight: normal; } .green { color: #628c2a; } .MsoNormal { margin: 0 0 0 0; } o { font-size: 0; } #photos div { float: left; width: 72px; } #photos div div { border: 1px solid #666666; height: 62px; overflow: hidden; width: 62px; } #photos div label { color: #666666; font-size: 10px; overflow: hidden; text-align: center; white-space: nowrap; width: 64px; } #reco-category { font-size: 77%; } #reco-desc { font-size: 77%; } .replbq { margin: 4px; } #ygrp-actbar div a:first-child { /* border-right: 0px solid #000;*/ margin-right: 2px; padding-right: 5px; } #ygrp-mlmsg { font-size: 13px; font-family:

Arial, helvetica,clean, sans-serif; *font-size: small; *font: x-small; } #ygrp-mlmsg table { font-size: inherit; font: 100%; } #ygrp-mlmsg select, input, textarea { font: 99% Arial, Helvetica, clean, sans-serif; } #ygrp-mlmsg pre, code { font:115% monospace; *font-size:100%; } #ygrp-mlmsg * { line-height: 1.22em; } #ygrp-mlmsg #logo { padding-bottom: 10px; } #ygrp-msg p a { font-family: Verdana; } #ygrp-msg p#attach-count span { color: #1E66AE; font-weight: 700; } #ygrp-reco #reco-head { color: #ff7900; font-weight: 700; } #ygrp-reco { margin-bottom: 20px; padding: 0px; } #ygrp-sponsor #ov li a { font-size: 130%; text-decoration: none; } #ygrp-sponsor #ov li { font-size: 77%; list-style-type: square; padding: 6px 0; } #ygrp-sponsor #ov ul { margin: 0; padding: 0 0 0 8px; } #ygrp-text { font-family: Georgia; } #ygrp-text p { margin: 0 0 1em 0; } #ygrp-text tt { font-size: 120%; } #ygrp-vital ul li:last-child { border-right: none !important; } -->

50443. Re: [TS-520_820_530_830] Kenwood Rubber Feet & Extensions

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-12 04:42:19 UTC
From: Wes Will
Topic: 50325 Message: 50443

On 12/11/2014 10:26 PM, Craig Roberts crgrbrts@...
[TS-520_820_530_830] wrote:
> My 940' s front feet extend to tilt the radio. Twist to unlock, pull to extend and twist again to lock. The feet on mine are plastic.
>
> 73,
>
> Craig
> W3CRR
>
> On December 11, 2014, at 22:09, "Richard AG5M ag5m@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:
>
>
>
> My TS-830S has two rubber feet on the front to raise it up at an angle.
> But my TS-940S does not. Anyone know where I can buy the extension feet

I just use a stick of wood cut to the the thickness I need, and shim any gear that I want. I guess 'extension feet' might be all nice and pretty, not a thing wrong with 'pretty,' but a scrap of wood works just fine for me.... Consider it for the interim perhaps, until you locate what you prefer??

--
Wes Will
SysAdmin
N9KDY

50444. Re: Kenwood Rubber Feet & Extensions

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-12 14:33:43 UTC
From: roberteleazer@...
Topic: 50325 Message: 50444

Go to a hardware store. Find some rubber feet that will do the job. In the unlikely event you cannot find any that are tall enough, then stack two atop one another, like Heathkit did.

Some friends gave me a circulating fan that stood on a pedestal some years ago. Unfortunately the pedestal met my car's front wheel. I threw away the pedestal, but noted that the rubber feet for it were just what you need to raise the front of a radio and salvaged them.

So, look around and I think you'll find something suitable, possibly in unlikely places.

Good Luck!

Robert

50445. Re: [TS-520_820_530_830] Re: Kenwood Rubber Feet & Extensions

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-12 14:38:49 UTC
From: Allan Bear
Topic: 50325 Message: 50445

Rubber door stops from hardware stores work well...73 de Allan GM3VXI
From: "roberteleazer@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com>
To: TS-520_820_530_830@yahoogroups.com
Sent: Friday, 12 December 2014, 14:33
Subject: [TS-520_820_530_830] Re: Kenwood Rubber Feet & Extensions

Go to a hardware store. Find some rubber feet that will do the job. In the unlikely event you cannot find any that are tall enough, then stack two atop one another, like Heathkit did.

Some friends gave me a circulating fan that stood on a pedestal some years ago. Unfortunately the pedestal met my car's front wheel. I threw away the pedestal, but noted that the rubber feet for it were just what you need to raise the front of a radio and salvaged them.

So, look around and I think you'll find something suitable, possibly in unlikely places.

Good Luck!

Robert

50446. Re: [TS-520_820_530_830] Re: Kenwood Rubber Feet & Extensions

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-12 14:41:50 UTC
From: Jan Servaites
Topic: 50325 Message: 50446

MCM electronics has all the rubber feet you will ever want.
Jan N8CBX

50447. Missing Wire on a TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-12 14:44:38 UTC
From: roberteleazer@...
Topic: 50447 Message: 50447

I am puzzling over something on the TS-520 I am rewiring/recapping.

On my working TS-520 there is a white wire that goes from the X-43-1090-00 rectifier board forward to the front of the radio. Apparently it turns and goes up, just behind the front panel. I have not traced it further that that yet.

Oddly enough, the TS-520 I am repairing has no sign of that white wire. It does not appear to be there at all. Now, all the wires coming "out" of the board to the rest of the set were cut and I am reattaching them one by one as I verify them. But in no other case was a wire removed entirely.

Any ideas out there?

Thanks,

Robert
WB5WSV

50448. Re: [TS-520_820_530_830] Missing Wire on a TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-12 14:53:48 UTC
From: Mike W5RKL
Topic: 50447 Message: 50448

Robert,

What terminal on the X-43-1090-00 Rectifier Unit board is the wire connected to??? That would at least give us a hint.

73
Mike W5RKL

On 12/12/2014 8:44 AM, roberteleazer@... [TS-520_820_530_830] wrote:
>
> I am puzzling over something on the TS-520 I am rewiring/recapping.
>
> On my working TS-520 there is a white wire that goes from the
> X-43-1090-00 rectifier board forward to the front of the radio.
> Apparently it turns and goes up, just behind the front panel. I have
> not traced it further that that yet.
>
> Oddly enough, the TS-520 I am repairing has no sign of that white
> wire. It does not appear to be there at all. Now, all the wires
> coming "out" of the board to the rest of the set were cut and I am
> reattaching them one by one as I verify them. But in no other case
> was a wire removed entirely.
>
> Any ideas out there?
>
> Thanks,
>
> Robert
> WB5WSV
>
>

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http://www.avast.com

50449. Re: Missing Wire on a TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-12 16:20:48 UTC
From: wagstw46@...
Topic: 50447 Message: 50449

It sounds like you are describing -C (bias voltage) and if so it goes to the RF board and eventually to the bias voltage adjust pot and to control grids of the finals.

White is normal color convention for -C supply. However never bet your life on color conventions.

Terry K9TW

50450. Re: Missing Wire on a TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-12 16:34:32 UTC
From: wagstw46@...
Topic: 50447 Message: 50450

One point of clarification. When I say white is the "normal" convention I am talking about the three 520 series radios. -C is typically purple on 820s and Wht/Blue on the 530/830s, but again dont bet on any color conventions ie Red is always + and Black is always -. If cant trace lead in the harness then try ringing it out. May have to lift it and measure or see what is lost. Not as easy to do with wire wrap terminal posts.

Terry K9TW

50451. Re: [TS-520_820_530_830] Missing Wire on a TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-12 17:26:37 UTC
From: roberteleazer@...
Topic: 50447 Message: 50451

Yep, Mike, that would have been neat to have available. And I thought I had noted which post it was hooked to but I can't make sense of what I saw when I tried to relate it to the schematic and board foil path. I'll have to take a look at it again.

Thanks,
Robert

50452. Re: [TS-520_820_530_830] Missing Wire on a TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-12 17:27:29 UTC
From: roberteleazer@...
Topic: 50447 Message: 50452

But then again, I only saw one white wire on the board on the working TS-520.

Robert.

50453. Re: Missing Wire on a TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-12 17:42:37 UTC
From: roberteleazer@...
Topic: 50447 Message: 50453

Teryy:

Yes, I only saw one white wire on the rectifier board on the working TS-520, although. I am having trouble relating it to the data from the manual (I did not write notes on the expanded schematic and foil layout), I think the -C post is indeed the one with the white wire. Now what happened to that wire on the other TS-520? I guess I'll figure out where it goes on the RF board and then trace it back the other way.

I gather then, that you know of no mod that got rid of the white wire? After all, that function is still required.

Reminds me of the time my Toyota quit running. I made some measurements, looked at the schematic, and it became obvious at once that a fusible link had blown. I found that fusible link, next to the battery, right away, And it was hooked to .... nothing. The wire that was the problem area was not there. Now, I had driven the car for about 18 years at that point so I was fairly sure that it had run at one time. I finally decided to heck with that mystery; I would just run the wire per the schematic myself. In the process I found that real problem, - a bad connector - and the fact that they had done a mod that ran the wire to the alternator rather than to the battery.

As for color codes, I recall one F-111 item where they wires were yellow and green. I don't recall which was positive and which was negative, but on a later version of the part they made them black and red. And black was positive and red negative!

Thanks!

Robert
WB5WSV

50454. Re: [TS-520_820_530_830] Missing Wire on a TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-12 18:23:18 UTC
From: John Davidson
Topic: 50447 Message: 50454

When my screen voltage failed in my
TS520, tracing the wiring around the radio from the rectifier /resistor board to the switch on the back and to the final section, required me to cut some cable ties and spread out the bundles to follow some of the wires. Seems like most of the wires are identical colors. My radio is Ham Radio...CW is Real Radio
73, John...K8JD
From: "roberteleazer@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com>
To: TS-520_820_530_830@yahoogroups.com
Sent: Friday, December 12, 2014 9:44 AM
Subject: [TS-520_820_530_830] Missing Wire on a TS-520

I am puzzling over something on the TS-520 I am rewiring/recapping.

On my working TS-520 there is a white wire that goes from the X-43-1090-00 rectifier board forward to the front of the radio. Apparently it turns and goes up, just behind the front panel. I have not traced it further that that yet.

Oddly enough, the TS-520 I am repairing has no sign of that white wire. It does not appear to be there at all. Now, all the wires coming "out" of the board to the rest of the set were cut and I am reattaching them one by one as I verify them. But in no other case was a wire removed entirely.

Any ideas out there?

Thanks,

Robert
WB5WSV

50455. Re: Missing Wire on a TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-12 19:04:41 UTC
From: wagstw46@...
Topic: 50447 Message: 50455

Well just have to remember that schematic and wiring diagram are two very different things and of course in the electrical power world it is a must to have both. Would be nice to have them for our radios, but I dont know of any radio mfg that routinely provided them. Common to get a table of abbreviations and maybe a table showing each end connection.

Not understanding the as built configuration has gotten people killed. That along with not using proper PPE and taking a contact voltage test before barehand touching.

In the power world the schematic is called an "elementary" and like the schematic you use it to see how the circuit works but it tells you nothing of the actual as built wiring.

There are conventions for drawing schematics and elementaries, but KW didnt necessarily adhere to what we used in the states. Probably drives EE hams nuts especially those who went on to RF communications design careers.

I cant imagine someone changing out the -C wire from the HV rect board to the RF board. -C lead sees virtually no current so should not burn up, but it can be hurt if have an arc over from anode to FG lead. Fortunately this doesnt happen too often.

Terry K9TW

50456. Re: [TS-520_820_530_830] Kenwood Rubber Feet & Extensions

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-12 17:50:49 UTC
From: Richard AG5M
Topic: 50325 Message: 50456

Thank you all who replied. Some good information I never thought about. I have been using a scrap piece of wood for over 10 years, thought it was time to make things look a bit more pretty this time around as I clean up the shack. Richard AG5M

50457. New file uploaded to TS-520_820_530_830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-12 20:46:00 UTC
From: TS-520_820_530_830@yahoogroups.com
Topic: 557 Message: 50457

Hello,

This email message is a notification to let you know that
a file has been uploaded to the Files area of the TS-520_820_530_830
group.

File : /REPAIRS AND ALIGNMENT/KW Hybrid RX Level Diagram How To.pdf
Uploaded by : vk3alb <radio@...>
Description : Courtesy of Terry K9TW

You can access this file at the URL:
https://groups.yahoo.com/neo/groups/TS-520_820_530_830/files/REPAIRS%20AND%20ALIGNMENT/KW%20Hybrid%20RX%20Level%20Diagram%20How%20To.pdf

To learn more about file sharing for your group, please visit:
https://help.yahoo.com/kb/index?page=content&y=PROD_GRPS&locale=en_US&id=SLN15398

Regards,

vk3alb <radio@...>

50458. Re: [TS-520_820_530_830] Kenwood Rubber Feet & Extensions

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-12 22:17:48 UTC
From: roberteleazer@...
Topic: 50325 Message: 50458

Here is another idea:

Reasonably well stocked hardware stores have rubber stoppers in various different sizes and lengths. A couple of those shpuld do the job and you probably will be able to find a larger array of potential candidates than you will by looking for rubber feet.

Good Luck!

Robert

50459. Re: [TS-520_820_530_830] Kenwood Rubber Feet & Extensions

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-12 22:21:27 UTC
From: Wes Will
Topic: 50325 Message: 50459

On 12/12/2014 11:50 AM, Richard AG5M ag5m@... [TS-520_820_530_830]
wrote:
> Thank you all who replied. Some good information I never
> thought about. I have been using a scrap piece of wood for
> over 10 years, thought it was time to make things look
> a bit more pretty this time around

Sand and stain the wood??

--
Wes Will
SysAdmin
N9KDY

50460. Re: Missing Wire on a TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-12 22:56:20 UTC
From: roberteleazer@...
Topic: 50447 Message: 50460

Well, we now have one mystery cleared up but another one of even greater magnitude discovered in the process.

I found the "missing" White wire. I had identified it as a Tan wire, because it got smoke stained by the effluents that accompanied the catastrophic failure of the rectifier board.

Now the question is, "Where is the Tan wire?" for the good TS-520, there is Tan wire that comes from the front of the radio along a different path than the White wire and connects to the STB post on the rectifier board.

The only Tan wire that travels along that much the same path in the TS-520 undergoing repair does not go to the rectifier board at all but instead goes to a terminal on the bottom of the power amp section. I do not see another Tan wire. I doubt very much that this is a mod; it sure looks original and factory in nature

AND - on my copy of the foil image and the schematic, there is no STB post on the rectifier board in any case. I will have to see where it would fit in the schematic. The TS-520S rectifier board does have an STB post. Maybe there was a "TS-520 and 1/2 S" that had an STB post on X43-1090-00 board.

I'll dig out the old rectifier board I replaced and see if it has an STB post. And I'll have to do some more looking at the wiring of both the good radio and the smoked one.

And yes, I sure wish we had a wiring diagram to complement the schematic. When I am doing something like working to de-modify a BC-348 the wiring diagram probably is of more value than the schematic, anyway.

We'll have to put some good wiring diagrams in those new versions of the TS-520 and TS-820 manuals we are going to write some day...

Thanks!

Robert
WB5WSV

50461. Re: [TS-520_820_530_830] Missing Wire on a TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-12 23:06:30 UTC
From: roberteleazer@...
Topic: 50447 Message: 50461

Yes, I am having to do that as well - except that this set does not have real cable ties but rather those twist ties like you used to secure bread bags. I don't think the modern cable tie had been invented back then. I guess when I get it all fixed I'll install real cable ties.

Funny thing occurred a few years back. I had taken my Mom Christmas shopping and a lady backed her Toyota out of a parking spot to the accompanyment of horrendous scraping noises. The undersides plastic faiings had not been properly secure and came loose. I had s sudden inspiration and dashed into a nearby Radio Shack where I purchased a bag of cable ties. With the cable ties we were able to secure the fairings quite well.

I marked down in my mental notebook to be sure and keep some cable ties in every car's emergency repair supplies.

And as a result of doing that good deed, I got a $10 off $40 purchase coupon from Radio Shack, which I used to purchase a Grundig G6 receiver on sale at an even cheaper price.

Rober

50462. Re: [TS-520_820_530_830] Re: Missing Wire on a TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-12 23:55:07 UTC
From: W5RKL
Topic: 50447 Message: 50462

Robert,

If you compare the TS-520 and the TS-520S Rectifier Unit boards, the "STB" in the TS-520 is the "210A". Kenwood made a new terminal, STB, on the TS-520S and TS-520SE to provide the CW side tone "STB"voltage from a resistive voltage divider consisting of two 100K ohm resistors in series to ground off the 210A supply. If you follow the TS-520 "210A" terminal wire you will see not only does it go to the RF unit but also to the AF Unit's "STB" terminal. The TS-520S and TS-520SE "STB" terminal wire goes to the AF Unit's STB terminal.

73
Mike W5RKL
www.w5rkl.com

On 12/12/2014 4:56 PM, roberteleazer@... [TS-520_820_530_830]
wrote:
>
> Well, we now have one mystery cleared up but another one of even
> greater magnitude discovered in the process.
>
> I found the "missing" White wire. I had identified it as a Tan wire,
> because it got smoke stained by the effluents that accompanied the
> catastrophic failure of the rectifier board.
>
> Now the question is, "Where is the Tan wire?" for the good TS-520,
> there is Tan wire that comes from the front of the radio along a
> different path than the White wire and connects to the STB post on the
> rectifier board.
>
> The only Tan wire that travels along that much the same path in the
> TS-520 undergoing repair does not go to the rectifier board at all but
> instead goes to a terminal on the bottom of the power amp section. I
> do not see another Tan wire. I doubt very much that this is a mod; it
> sure looks original and factory in nature
>
> AND - on my copy of the foil image and the schematic, there is no STB
> post on the rectifier board in any case. I will have to see where it
> would fit in the schematic. The TS-520S rectifier board does have an
> STB post. Maybe there was a "TS-520 and 1/2 S" that had an STB post
> on X43-1090-00 board.
>
> I'll dig out the old rectifier board I replaced and see if it has an
> STB post. And I'll have to do some more looking at the wiring of both
> the good radio and the smoked one.
>

> And yes, I sure wish we had a wiring diagram to complement the
> schematic. When I am doing something like working to de-modify a
> BC-348 the wiring diagram probably is of more value than the
> schematic, anyway.
>
> We'll have to put some good wiring diagrams in those new versions of
> the TS-520 and TS-820 manuals we are going to write some day...
>
> Thanks!
>
> Robert
> WB5WSV
>
>

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50463. TS 520X Is there a such thing?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-13 02:14:09 UTC
From: kc4flt@...
Topic: 50463 Message: 50463

Just viewed an auction for an x model 520 that claims 10 watts output. The face looks exactly like a standard 20 with drive , plate , load controls - I think it may be kinda bogus?

73
KC4FLT
Carl

50464. Re: [TS-520_820_530_830] TS 520X Is there a such thing?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-13 04:38:50 UTC
From: W5RKL
Topic: 50463 Message: 50464
Attachments: 3 described; binary payloads are missing from this source WARC

No Carl, there actually is a TS-520X.

Here's are a few pictures of some Kenwood TS-520X transceivers.

The above pictures of the TS-520X were cut and pasted from different Japanese websites using "Kenwood TS-520X" as the search phrase. I do not have a manual for a TS-520X so I can't say what the normal DC power input would be. However, if the TS-520X has a single S2001A (Japanese equivalent of the 6146B) in the final then that would explain why the power output is low.

Kenwood made a TS-530D that had a single S2001A (Japanese equivalent to the 6146B) final tube that produced low power output. The "D" model was for the Korean market only.

The TS-530SP had a "Notch Filter" but the plain TS-530S did not.

The TS-830M has the "AM" mode but the TS-830S does not.

73
Mike W5RKL
www.w5rkl.com

On 12/12/2014 8:14 PM, kc4flt@... [TS-520_820_530_830] wrote:
>
> Just viewed an auction for an x model 520 that claims 10 watts output.
> The face looks exactly like a standard 20 with drive , plate , load
> controls - I think it may be kinda bogus?
>
> 73
> KC4FLT
> Carl
>
>
>

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50465. Re: [TS-520_820_530_830] TS 520X Is there a such thing?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-13 04:48:32 UTC
From: W5RKL
Topic: 50463 Message: 50465
Attachments: 1 described; binary payloads are missing from this source WARC

Here's one for ya, a Kenwood TS-520V. The TS-520V is a 100 watt transceiver, same as the TS-520/520S/520SE. The "V" model appearance appears to be equivalent to the U.S. Kenwood TS-520S model. Notice the white "Heater" switch in the same spot and the color scheme is the same as the TS-520S.

73
Mike W5RKL
www.w5rkl.com

On 12/12/2014 8:14 PM, kc4flt@... [TS-520_820_530_830] wrote:
>
> Just viewed an auction for an x model 520 that claims 10 watts output.
> The face looks exactly like a standard 20 with drive , plate , load
> controls - I think it may be kinda bogus?
>
> 73
> KC4FLT
> Carl
>
>
>

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50466. Re: [TS-520_820_530_830] TS 520X Is there a such thing?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-13 06:02:05 UTC
From: Osamu Hazawa
Topic: 50463 Message: 50466

Carl,

I have a 37 years old TS-520X here in Japan.
I worked about 230 entities with CW/10W on 21MHz band only raound 1978 to 1983.

Osamu

50467. Re: Missing Wire on a TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-13 11:56:13 UTC
From: wagstw46@...
Topic: 50447 Message: 50467

STB on a straight TS520 is fed by a voltage divider R16/R17 100k ohm. They are mounted on a phenolic terminal strip near the front 6146 tube sockets and fed via 210A. STB is not fed directly from the Rect Board.

Unlike the White -C lead wire I dont have the STB wire colors firmly committed to memory, but seem to recall yellow and brown perhaps. STB by the way is side tone bias supply as it is used to forward bias diode D3 in the side tone phase shift oscillator RC network. This opens and closes the regenerative feedback path to ensure no sidetone oscillator leakage.

I am pretty sure that STB and R16 and R17 have been covered here before, but may not be easy to search on?

You might want to contact Jimmy WB2KNR who has 9 or 10 TS520 rigs and usually has covers off one or more working on them.

Terry K9TW

50468. Re: Missing Wire on a TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-13 12:17:29 UTC
From: wagstw46@...
Topic: 50447 Message: 50468

Try searching on msg # 50339.

Terry K9TW

50469. Re: [TS-520_820_530_830] Re: Missing Wire on a TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-13 13:28:40 UTC
From: Mike W5RKL
Topic: 50447 Message: 50469

Robert,

A little further explanation about the difference in the 210A and STB wiring from the Rectifier Units in the different TS-520 models.

If you look closely at the TS-520 schematic wiring starting from the Rectifier Unit's "210A" terminal, the wiring path goes up and then a wire crosses to the left and turns back down. The wiring path then continues down and then turns left and continues to R16 and R17 (both 100K 1/2 watt) resistive voltage divider network. The wiring continues on from the junction of R16 and R17, to and terminates at the AF Unit's "STB" terminal.

What Kenwood did was to move R16 and R17, again both 100K 1/2 watt resistor, onto the Rectifier Unit and relabeled the 2 voltage divider resistors as R9 and R10. R9 and R10 is the same 200K voltage divider network but is now physically mounted on the Rectifier Unit with the added "STB" terminal in the TS-520S and TS-520SE models.

Other than those wiring changes and additions to the Rectifier Units, the TS-520 210A and TS-520S/TS-520SE STB wiring from the Rectifier Unit to the AF Unit's STB terminal is the same.

73
Mike W5RKL

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50470. Re: [TS-520_820_530_830] Re: Missing Wire on a TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-13 13:31:33 UTC
From: Mike W5RKL
Topic: 50447 Message: 50470

Sorry Terry, I guess we both responded at the same time, or very close
to the same time.

73
Mike W5RKL
www.w5rkl.com

On 12/13/2014 5:56 AM, wagstw46@... [TS-520_820_530_830] wrote:
>
> STB on a straight TS520 is fed by a voltage divider R16/R17 100k ohm.
> They are mounted on a phenolic terminal strip near the front 6146 tube
> sockets and fed via 210A. STB is not fed directly from the Rect Board.
>
>
> Unlike the White -C lead wire I dont have the STB wire colors firmly
> committed to memory, but seem to recall yellow and brown perhaps. STB
> by the way is side tone bias supply as it is used to forward bias
> diode D3 in the side tone phase shift oscillator RC network. This
> opens and closes the regenerative feedback path to ensure no sidetone
> oscillator leakage.
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> I am pretty sure that STB and R16 and R17 have been covered here
> before, but may not be easy to search on?
>
> You might want to contact Jimmy WB2KNR who has 9 or 10 TS520 rigs and
> usually has covers off one or more working on them.
>
> Terry K9TW
>

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50471. Re: [TS-520_820_530_830] Re: Missing Wire on a TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-13 14:38:25 UTC
From: wagstw46@...
Topic: 50447 Message: 50471

Mike

No problem. Never know who is typing at any given time.

You are good at teaching how to read schematics and I bring the actual as-built config to the table so both add value. I am very familiar with physical construction of most of these KW hybrid circuits having had to troubleshoot just about any problem that can commonly occur with them. Just as you are I suspect with Heath and Drake rigs physical layout.

This subject covered previously but I guess easier for all of us to just respond again.

Sometimes my memory is flawed or stuff is filed too far back in the "file cabinet" for me to pull it out. I never mind a correction or any amplification. In fact amplification can be a good thing!

Terry K9TW

50472. Re: [TS-520_820_530_830] Re: Missing Wire on a TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-13 15:02:44 UTC
From: roberteleazer@...
Topic: 50447 Message: 50472

Mike:

One thing I eventually wanted to get around to was asking about the differences between the TS-520 and TS-520S rectifier boards. I printed out enlarged copies of both the -00 and the -02 boards because for some reason I was under the impression that I had a spare board that was a -02.

So you and Terry got there ahead of me. Thanks!

Now, again looking at the broken TS-520 this morning, I find no evidence of the "missing" tan wire ever being there in the first place. Looking at the original, fried and unrepaired, X43-1090-00 rectifier board removed from the broken TS-520 shows that it does indeed have a STB post - and which shows no little or no evidence of ever having anything attached to it.

But looking at the broken TS-520 and the good one, I see circuit differences in the final amp section. These were not wrought by some guy with some wire cutters and a soldering iron. Clearly, there were production differences between the broken TS-520, Serial No. 230685, and the working one, Serial No. 311080.

So, my task of repairing the TS-520 has become a lot more complex than just making sure the wires with the same color codes go to the same places. I am going to give this some more examination.

Thanks again to Mike and Terry!

Robert
WB5WSV

50473. Re: [TS-520_820_530_830] Re: Missing Wire on a TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-13 15:34:25 UTC
From: wagstw46@...
Topic: 50447 Message: 50473

How do you know if it is a production model difference or if someone has inappropriately swapped out boards? One way would be if you still had factory wire wraps on the terminal posts.

There are numerous differences between the 520 and 520S that have to be evaluated before swapping boards.

Terry K9TW

50474. New file uploaded to TS-520_820_530_830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-13 15:45:07 UTC
From: TS-520_820_530_830@yahoogroups.com
Topic: 557 Message: 50474

Hello,

This email message is a notification to let you know that
a file has been uploaded to the Files area of the TS-520_820_530_830
group.

File : /WD-40/WD-40 information
Uploaded by : paw_paw44036 <paw_paw44036@...>
Description :

You can access this file at the URL:
https://groups.yahoo.com/neo/groups/TS-520_820_530_830/files/WD-40/WD-40%20information

To learn more about file sharing for your group, please visit:
https://help.yahoo.com/kb/index?page=content&y=PROD_GRPS&locale=en_US&id=SLN15398

Regards,

paw_paw44036 <paw_paw44036@...>

50475. New file uploaded to TS-520_820_530_830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-13 15:47:03 UTC
From: TS-520_820_530_830@yahoogroups.com
Topic: 557 Message: 50475

Hello,

This email message is a notification to let you know that
a file has been uploaded to the Files area of the TS-520_820_530_830
group.

File : /WD-40/WD-40
Uploaded by : paw_paw44036 <paw_paw44036@...>
Description : http://en.wikipedia.org/wiki/WD-40

You can access this file at the URL:
https://groups.yahoo.com/neo/groups/TS-520_820_530_830/files/WD-40/WD-40

To learn more about file sharing for your group, please visit:
https://help.yahoo.com/kb/index?page=content&y=PROD_GRPS&locale=en_US&id=SLN15398

Regards,

paw_paw44036 <paw_paw44036@...>

50476. Post on my Website

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-13 15:54:10 UTC
From: wagstw46@...
Topic: 50476 Message: 50476

Recently got couple of off reflector questions. One on the What and Why for resting plate current adjustment and the other for running RX Level Diagrams. I have discussed both here in the past.

See my website http://www.k9tw.com http://www.k9tw.com for white papers on both subjects. One is under FAQ and other is under How To Guide.

Also, I have seen a large influx in TS820S repairs in last several months and have now had 3 rigs with bad xtal filters (filters getting hard to find and expensive and never know if any good despite the seller saying in good condition). Have had one bad CW and two bad SSB filters. Bad ranges from Fc shifted to non-symmetrical response curve. I have posted a sweep of one of the bad SSB filters under the Picture/video tab on my site. I cant tell you how nice it is to now have a decent Spectrum Analyzer. Should have cut back on kids birthday and xmas gifts a long time ago. Just kidding! Got by Ok with Sweep gen and O-scope for many years.

As with all my white papers I have no one to QC them prior to posting so if you see errors especially in technical accuracy please contact me off the reflector to discuss.

Terry K9TW

50477. Brand New TS-820s and 820 VFO. Whats it worth??

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-13 12:59:38 UTC
From: k2wh@...
Topic: 50477 Message: 50477

Years ago, I purchased a brand new (never been put on the air) 820s and matching VFO in original box's with paperwork. They have been in my basement for at least 20 years.

Been wondering what they might be worth.

Bill

PSE remember to properly sign your posts/msgs according to group policy: name & call(if any)
73 Joe wb7uqu

50478. Re: TS 520X Is there a such thing?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-13 13:05:56 UTC
From: kc4flt@...
Topic: 50463 Message: 50478

Thanks everone,
I appriciate your replies. I have the standard 520 - and boy is it a performer! I changed the power supply capacitors last week. Thanks again
73!!
KC4FLT
Carl

50479. Re: [TS-520_820_530_830] Re: Missing Wire on a TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-13 17:20:40 UTC
From: roberteleazer@...
Topic: 50447 Message: 50479

Terry:

There are indeed factory wire wraps on the fried X43-1090-00 rectifier board I removed from the broken TS-520. Of course someone had cut the board's output wires and spiced in some wire, I assume for purposes of troubleshooting. I found the 33MFD 160V caps on the board to be bad, so that troubleshooting approach would not have taken that into account.

Aside from that, the wiring differences between the working TS-520 and the broken one involve areas other than the rectifier board - the power amp section. One TS-520 has a two terminal strip in that section, with only one terminal of it in use. The other one has a 4 terminal strip in use, with at least 3 terminals used.

By the way, the broken TS-520's "TS-520" nameplate below the main tuning knob has been replaced by one that says "TS-520S" but based on its internals, features, and nameplate/Serial No sticker on the back it is a TS-520, not an S.

Robert
WB5WSV

50480. Re: [TS-520_820_530_830] Re: Missing Wire on a TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-13 19:06:14 UTC
From: Mike W5RKL
Topic: 50447 Message: 50480

Robert,

The "X" number on the component side of the board does not always reflect the correct version of the board. I have seen what appeared to be 2 identical board with the same component side "X" number but the foil side numbers were different! You have to turn the board over and look at the foil side. You can see what I am talking about by looking at the TS-520 Rectifier Unit's Xray view, foil side number page 35. The foil side number shown is "J25-0936-04" which not the same as the component side number "X43-1090-00".

I had a TS-820 a number of years ago. I replaced the AF AVR Unit board. The replacement board fit perfectly, plugs fit fine, it looked the same, BUT after installing the replacement board and the 820 was powered up, there was no receive audio. I could see the S meter bouncing around but I couldn't hear any audio. I checked the component side number and it was the same as the old board BUT when I compared the foil side numbers, they were different. I mentioned this to the seller and he sent me another AF AVR Unit board that had the same foil side number and all was well.

It's quite possible you can replace the Rectifier Unit board with a different "foil side" numbered board and it will work. However, if it does not then you have to look at the foil side number to ensure it's the same as the board it replaced.

73
Mike W5RKL
www.w5rkl.com

This email has been checked for viruses by Avast antivirus software.
http://www.avast.com

50481. Re: [TS-520_820_530_830] Re: Missing Wire on a TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-13 21:04:09 UTC
From: wagstw46@...
Topic: 50447 Message: 50481

It cant be a J25-0936-04 if it has a STB post on it.

Look at the Generator board and see if it has a reed relay on it. Black cylindrical component on board edge near the HV filter caps. Most commonly will be an Omron relay. If no reed relay then it is a 520S and not a 520 or Dr. Frankenstein has been at work!

Terry K9TW

50482. TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-13 23:26:19 UTC
From: kk6iux@...
Topic: 66 Message: 50482

Question.... Is the TS-820S 100 Watts pep or 200 watts PEP on SSB?? Universal radio website says 200Watts input.. Can someone clarify this for me?

Posts/msgs are REQUIRED to be signed according to group policy: NAME & CALL(if any)

This msg approved as a one time courtesy, 73 Joe wb7uqu Group Co-owner

Kenwood TS-820S, Kenwood ts-820 Transceiver TS820
http://www.universal-radio.com/catalog/hamhf/ts820s.html

http://www.universal-radio.com/catalog/hamhf/ts820s.html

Kenwood TS-820S, Kenwood ts-820 Transceiver TS820
http://www.universal-radio.com/catalog/hamhf/ts820s.html Kenwood TS-820S 160-10 meters 120 VAC Discontinued! Replaced by the TS-830S Please check our Used List Accessories Recently Sold Used ...

View on www.universal-radio... http://www.universal-radio.com/catalog/hamhf/ts820s.html
Preview by Yahoo

50483. Re: [TS-520_820_530_830] TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-13 23:50:29 UTC
From: Joseph Stiles
Topic: 66 Message: 50483

Trevor,
Pg 3 of the TS-820S Operating Manual states the specifications.
   with 120/220VAC: 200 watts PEP for SSB operation 160 watts DC for CW operation 100 watts for FSK operation.
   operation on 13.6VDC(nominal) the inputs are: 120 watts(SSB)
90
(CW)
60 (FSK)
If you are new to these type of rigs, I suggest that you obtain theOperating Manual and read it, so you have a basic understand of how to properly tune it up and operate it. It's not that hard..just takes a bit of practice.
 73 Joe
WB7UQU

On Saturday, December 13, 2014 3:34 PM, "kk6iux@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

  Question.... Is the TS-820S 100 Watts pep or 200 watts PEP on SSB?? Universal radio website says 200Watts input.. Can someone clarify this for me?

Posts/msgs are REQUIRED to be signed according to group policy: NAME CALL(if any)
   This msg approved as a one time courtesy, 73 Joe wb7uqu Group Co-owner

Kenwood TS-820S, Kenwood ts-820 Transceiver TS820

| |
| | | | Kenwood TS-820S, Kenwood ts-820 Transceiver TS820 Kenwood TS-820S 160-10 meters 120 VAC Discontinued! Replaced by the TS-830S Please check our Used List Accessories Recently Sold Used ... | |
| View on www.universal-radio... | Preview by Yahoo |
| |

50484. Re: [TS-520_820_530_830] TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-13 23:50:52 UTC
From: W5RKL
Topic: 66 Message: 50484

I mean no disrespect but questions such as this one can be answered by referring to the operator's manual first. If you do not have the operator's manual, you can download it from my website

www.w5rkl.com

Click on the Manual, Mods, Docs link at the top of the home page. When the page comes up scroll down to the TS-820 listing and download the operator's manual.

73
Mike W5RKL
www.w5rkl.com

This email has been checked for viruses by Avast antivirus software.
http://www.avast.com

50485. Re: [TS-520_820_530_830] Re: Missing Wire on a TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-14 00:18:37 UTC
From: roberteleazer@...
Topic: 50447 Message: 50485

Mike:

I noted the notation on the foil side and was about to ask if that can be used to differentiate between then different versions of the rectifier board, but then decided we already had enough to discuss.

The foil side notation on the board removed from the broken TS-520 is J25-0936-24. By the way it looks to be in good shape except for the bad caps and expired resistor and appears to be easily rebuildable.

Looking at the broken one again, it has a Five terminal strip mounted down by the power output section, with all five of the lugs (counting the center grounded one that is also the mount) in use. The good TS-520, which has a later serial number, has a Two terminal strip, with only one lug in use in that same location.

Thanks,

Robert
WB5WSV

50486. Re: [TS-520_820_530_830] Re: Missing Wire on a TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-14 00:24:04 UTC
From: roberteleazer@...
Topic: 50447 Message: 50486

Terry:

The old failed rectifier board out of the broken TS-520 says J25-0936-24 on the foil side.

I'll take a look for that relay, but I think it's a TS-520. Anyone have a serial number versus model number list?

.I suspect that as new models were introduced that changes in older models were made in order to accommodate the later circuit boards and thus improve commonality

Thanks,

Robert
WB5WSV

50487. Re: [TS-520_820_530_830] Re: Missing Wire on a TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-14 01:48:45 UTC
From: wagstw46@...
Topic: 50447 Message: 50487

OK some how I thought you said it was an 04 board with a STB post. A 24 board is the 2nd revision to the board. I do not know what changes were made.

Unfortunately I dont know of any KW documentation that will tell you what changes were made from 04 to 14 and from 14 to the 24 board.

For example the latest IF board I have seen on the TS-820S is a 53 series. See lots of 33 boards and a few 43 boards and as Mike says best to use same foil side serial number board. I have been able to install any of the revised IF boards in the TS820, but that is not always the case. With visual inspection it isnt always obvious what was changed.

Terry K9TW

50488. Re: [TS-520_820_530_830] TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-14 01:48:59 UTC
From: Trevor Long
Topic: 66 Message: 50488

I have one and looked at it. I do know how to tune it up, set the load, plates, and drive.. I was asking because I am only getting a max of around 90-100 watts max on a CW carrier and on SSB it nevers gets higher than maybe 60-70 watts. Thanks

Trevor Long
KK6IUX

50489. Re: [TS-520_820_530_830] TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-14 02:59:53 UTC
From: kk6iux@...
Topic: 66 Message: 50489

non taken Mike... Here is my concern I tune the radio up just as it is described in my manual. I see 200 on the radio's meter when in the switch is in the RF position. But on my external SWR/ power meters (I tried two different units) are only showing a PEP of 100 watts. I am in USB and generating a carrier tone (via my PC) and it peaks and holds at 100 on my external power meters.. SWR is a 1.2:1 any ideas?

Moderator's note:

Every member who posts messages to this group must add a message signature to the end of their messages. An acceptable message signatures are as follows, no exceptions:

1. Licensed hams add their first name and call sign to the end of their messages. If you do not wish to add your call sign, use signature #2 below, first name only.

2. Non-licensed members add their first name

Unacceptable message signatures are:

1. screen names
2. Initials only

Screen names are acceptable ONLY as part of the members email address.

73
Mike W5RKL
Yahoo Kenwood TS_520_820_530_830 Group Moderator

50490. Re: [TS-520_820_530_830] TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-14 03:33:50 UTC
From: Louis Wilen
Topic: 66 Message: 50490

The RF position on the rig’s meter shows relative power. The actual value (200 in your case) means nothing other than it is more power than a reading of 199 and less power than a reading of 201.

The reading on your wattmeter is what is important. About 100 watts PEP is typical for the Kenwood hybrid rigs.

Louis
W3VVV

From: mailto:TS-520_820_530_830@yahoogroups.com
Sent: Saturday, December 13, 2014 9:59 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830] TS-820S

non taken Mike... Here is my concern I tune the radio up just as it is described in my manual. I see 200 on the radio's meter when in the switch is in the RF position. But on my external SWR/ power meters (I tried two different units) are only showing a PEP of 100 watts. I am in USB and generating a carrier tone (via my PC) and it peaks and holds at 100 on my external power meters.. SWR is a 1.2:1 any ideas?

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1. Licensed hams add their first name and call sign to the end of their messages. If you do not wish to add your call sign, use signature #2 below, first name only.

2. Non-licensed members add their first name

Unacceptable message signatures are:

1. screen names
2. Initials only

Screen names are acceptable ONLY as part of the members email address.

73
Mike W5RKL
Yahoo Kenwood TS_520_820_530_830 Group Moderator

50491. Re: [TS-520_820_530_830] TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-14 04:09:10 UTC
From: W5RKL
Topic: 66 Message: 50491

Trevor,

The KW hybrids, as many ham transmitters, have power levels expressed in PEP and CW carrier.

CW carrier power is typically referred to as "DC Input" power which is the maximum carrier power the final amplifier is capable of producing. A watt meter is not required to determine the DC input power. All that is needed is to note the final amplifier's high voltage and cathode current at maximum RF output carrier. For example, if the transmitter is properly tuned, resulting in a high voltage indication of 750VDC and cathode current of 225ma, the DC input power is approximately 168.75 watts (750 x .225 = 168.75).

Output power is the ratio percentage of input power verses output power. One can easily determine the approximately output power using the following formula

Pout = Pin x .6

Therefore, in the above example, the typical output power will be approximately

168.75 x .6 = 101,25 watts

This is CW carrier power NOT sideband power.

PEP power is the instantaneous peak envelope power of the undistorted RF sine wave cycle. PEP power cannot be measured by the same method as DC input power can. A peak reading watt meter is required. Most watt meters in ham stations today are of the average power variety. Peak reading watt meter have a peak sampling circuit that requires DC power to operate. Don't be fooled into believing your watt meter is a PEP watt meter simply because it requires 12VDC. There are watt meter that have 12 volt lamps to light the meter and that 12 volts is not to power a PEP circuit in the watt meter. Unless the manual states the meter is a PEP meter, it's an average watt meter.

The typical sideband power output displayed on an average watt meter with the MIC gain set properly (ALC peak indication is no higher than the top of the ALC scale), is between 25 and 30 watts on peaks. This low power level typically confuses hams today into believing there's a problem with the transmitter. After all the manual says the transmitter is a 200 watt sideband transmitter so I should see higher power so up goes the MIC gain so the watt meter displays peaks on the order of 70 to 80 watts. The operator now thinks everything is good. What the operator does not realize is, he/she is now splattering up and down the band with

a distorted signal, making a lot of enemies and causing intentional interference to other stations outside of the normal 3Khz wide sideband band width.

73
Mike W5RKL
www.w5rkl.com

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http://www.avast.com

50492. Re: [TS-520_820_530_830] TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-14 03:44:39 UTC
From: kk6iux@...
Topic: 66 Message: 50492

Thanks Ken. So even though the manual states that it should be 200 Watts PEP and I am only seeing about 100 on SSB with a Carrier, then all is fine? I was worried that a final had gone out. Thanks for the insight.

Trevor Long
KK6IUX

50493. Re: [TS-520_820_530_830] TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-14 05:10:06 UTC
From: Gary Appel
Topic: 66 Message: 50493

The input power – DC – to the final stage should be about 200 Watts PEP.

The output amplifier runs at somewhere around 50% efficiency.

The RF output power should be in the neighborhood of 100 Watts PEP.

Gary WA0TFB

From: mailto:TS-520_820_530_830@yahoogroups.com
Sent: Saturday, December 13, 2014 5:44 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830] TS-820S

Thanks Ken. So even though the manual states that it should be 200 Watts PEP and I am only seeing about 100 on SSB with a Carrier, then all is fine? I was worried that a final had gone out. Thanks for the insight.

Trevor Long
KK6IUX

50494. Re: [TS-520_820_530_830] TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-14 12:27:07 UTC
From: w5rkl@...
Topic: 66 Message: 50494

I incorrect stated:

"Output power is the ratio percentage of input power verses output power."

That statement refers to the amplifier's "efficiency" percentage. The amplifiers efficiency percentage can be found using the formula:

Ampeff = Pout / Pin

Where

Ampeff is the percentage of output power verses input power
Pout is the output power
Pin is the input power

An example is an amplifier that produces 170 watts DC input power and produces 101 watts output, the amplifier's efficiency percentage is:

101 / 170 = ,59

That's the typical maximum amplifier efficiency for a final amplifier operating in Class AB1. The KW hybrid final amplifiers operate in Class AB1.

Power output will be less due to losses in the amplifier and the PI Network.

73
Mike W5RKL
W5RKL http://www.w5rkl.com

W5RKL http://www.w5rkl.com Welcome to my Amateur Radio website. 73 Mike W5RKL email: w5rkl@yahoo.com

View on www.w5rkl.com http://www.w5rkl.com
Preview by Yahoo

50495. TS 820 saved from land fill

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-14 06:30:42 UTC
From: beeson.neil@...
Topic: 50495 Message: 50495

I got an early Christmas prezzie. Yesterday I scored a TS 820 for $50aus. It receives but no transmit so another one for me to restore, can't be to much.. The front panel is in mint cond, cases aren't to bad but will probably get painted. I've posted a couple of pics of the old girl.
The TS 520S I restored is up and running and looks and transmits like new.
People here are asking if I'm opening a Kenwood Boat Anchor Museum HI HI
ANOTHER ONE SAVED FROM LAND FILL.
73
Neil
VK6NSB

50496. Re: [TS-520_820_530_830] TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-14 09:15:30 UTC
From: clifford wright
Topic: 66 Message: 50496

This subject has brought up exactly why I modified the finals in my 820s. The old QST article on installing the WARC bands which I used as the basis for my conversion pointed out that the finals only ran at 50%. It also means that the Kenwood Hybrids can be very tough on the finals. The power has to go somewhere and it can simply be in plate and screen dissappation and heat. I modified the tank circuit inductance and got the finals running at nearly 60% efficiency. This makes it a LOT easier on my 6146B's that I use. I've also replaced the old "tin" fan with a 12 volt modern computer type. Less power used but a lot more airflow. The case over the finals is also modified with perforated metal sheet to let the heat escape more easily. After all a final of this type has a theoretical 68% efficiency rating. My old home brew TT21 final actually got to 67% on 14 MHz, so getting near the optimum is not impossible. Of course the very small amount of space in a hybrid is a limitation, but measured results still leave me of the opinion that Kenwood did not take enough care in the final tank design. ZL1BDA ex G3NIA

50497. audio spectrum ?

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-14 05:08:36 UTC
From: n612dw@...
Topic: 50497 Message: 50497

what is the groups consensus on their favorite PC based audio spectrum/distortion analyzer?? for sweeping filter response etc?

something that does some of the measurements for you, not just display it.

-bob, w9zv

50498. Re: [TS-520_820_530_830] TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-14 13:05:19 UTC
From: Mike W5RKL
Topic: 66 Message: 50498

Trevor,

The front panel "RF" switch position on the KW hybrid is NOT a watt meter!! The RF meter displays "relative" power. The RF switch position circuit samples the RF and rectifies the RF by a diode. The rectifier RF is now a DC voltage that is applied to a voltage divider consisting of fixed resistors and a pot. The pot is found on the rear panel labeled "RF VOLT". This pot is adjust to display a 3/4 scale indication when the transmitter has been tuned for max output power in CW mode. Again, the RF meter switch position is not a watt meter, only "relative power" is displayed.

There will be inherent losses in the final amplifier that will result in lower power output when compared to the inputpower. The typical loss percentage is approximately 40%. This is normal for the amplifier operating in Class AB1. As I said the KW hybrid final amplifiers operate in Class AB1. The amplifier efficiency can vary between 55% and 60% but the maximum efficiency is approximately 60% which is determined by

Ampeff% = Pout / Pin

Pout is the power output
Pin is the power input
Ampeff% is Amplifier Efficiency

If you tune the transmitter up into a 50 ohm dummy load and see approximately 170 watts input (HV x IP = DC input power) and 100 watts output then the amplifier is operating properly and the final amplifier's efficiency is:

100 / 170 = .58

or 58% efficiency in the final amplifier of power out verses power in.

The typical sideband power output as indicated on an average watt meter with the mic gain set properly and peak ALC indications on voice peaks of no higher than the top end of the ALC scale, will be between 20 and 30 watts. Too many hams see this lower power output in sideband and think something's wrong or they have made an adjustment mistake so they turn the MIC gain up and see higher power displayed on their average watt meter. What they do not realize is they are now producing boat loads of splatter up and down the band causing intentional interference with other stations on the band. They ask their buddies how they sound and the answer quite often is,

"you sound great"

when in reality they may sound LOUD at the distant end but they are splattering up and down the band causing all kinds of interference to other stations.

In short, you do not have anything to be concerned about. Just make sure you properly tune the transmitter and set the MIC gain for the proper ALC indication on voice peaks.

73
Mike W5RKL
www.w5rkl.com

On 12/13/2014 8:59 PM, kk6iux@... [TS-520_820_530_830] wrote:
> non taken Mike... Here is my concern I tune the radio up just as it is
> described in my manual. I see 200 on the radio's meter when in the
> switch is in the RF position. But on my external SWR/ power meters (I
> tried two different units) are only showing a PEP of 100 watts. I am
> in USB and generating a carrier tone (via my PC) and it peaks and
> holds at 100 on my external power meters.. SWR is a 1.2:1 any ideas?
>
>
> Moderator's note:
>
> Every member who posts messages to this group must add a message
> signature to the end of their messages. An acceptable message
> signatures are as follows, no exceptions:
>
> 1. Licensed hams add their first name and call sign to the end of
> their messages. If you do not wish to add your call sign, use
> signature #2 below, first name only.
>
> 2. Non-licensed members add their first name
>
> Unacceptable message signatures are:
>
> 1. screen names
> 2. Initials only
>
> Screen names are acceptable ONLY as part of the members email address.
>
> 73
> Mike W5RKL
> Yahoo Kenwood TS_520_820_530_830 Group Moderator
>
>

This email has been checked for viruses by Avast antivirus software.
http://www.avast.com

50499. Re: [TS-520_820_530_830] TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-14 13:43:35 UTC
From: Mike W5RKL
Topic: 66 Message: 50499

I forgot the comment on a few additional topics.

Every ham station should have a 50 ohm dummy load, whether wet or dry. The transmitter should always be tuned up into the dummy load first. The KW hybrid transmitter tuning procedure can be found in the hybrid's operator's manual. If you do not have a 50 ohm dummy load, there are plenty of them being sold on eBay or you can buy one from various outlets on the web. A simple 300 watt dummy load (dry, no oily mess) is the MFJ-260C which has a maximum power rating of 300 watts. The 260C has a 100 watt carrier rating of 90 seconds (see the manual for details on carrier power ratings). The 260C's approximate cost varies between $35 and $40 plus shipping. I have one I use on the bench with all my 100 watt output exciters (transmitters).

Quite often hams, when adjusting the LOAD control for maximum output indication on the hybrid's relative RF meter or their watt meters, will, after achieving a peak output indication, go back and readjust the plate for a further dip in IP current. Do NOT do that!!!! Once the Plate control has been adjusted for a dip in IP current and the LOAD control has been adjusted for maximum RF meter or watt meter indication, STOP adjusting!!! Set the meter switch to IP and if the IP indication is higher than 225ma, reduce the CAR control (rotated CCW) so the IP meter is at 225ma. The transmitter is now properly tuned and you can switch to the antenna or tuner input, which ever one you chose.

73
Mike W5RKL
www.w5rkl.com

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http://www.avast.com

50500. RL-1 repair.....on Ts 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-14 18:34:47 UTC
From: Mike McHugh
Topic: 50500 Message: 50500

Hi folks. Though you would like to hear of my RL-1 replacement..... This condition did not manifest over a period of time...I went to use my 830 after quite a while since last use..... I got NOTHING on meter while attempting to "tune" up.. NOTHING!!!! No HV , nothing... (Receiver worked fine).
Ok, off the operating station and over to the "shop" for the rig.... On the way off the operating position I forgot to unhook the hand mic from the holder....
More on that in minute..First thing ,after unbuttoning,was listen for the sound of the relays clicking on "send" switch actuation.... I did hear one relay. The TR relay but the one on the AF-AVR unit just sat there.... NO actuation..I did manually actuate (quickly) and got the HV read on meter..... Ok, guess I better go for the replacement of said relay..... Now, where, the heck, did I stow that part??????? After half hour I found it right under the operating station, In back of a drawer. Geez!ok, on to the repair.... Not easy... The leads to the replacement relay just ,barely, came through the foil side of board... One of the pads popped off while soldering so had to use two strands of 24 gauge stranded wire to "splint" the pin to a good part of the copper run... Whew, Got that done.... Back to the operating position..... Ooooops now for the mic cord repair..Ok got THAT done, Duh!My point to my story is that the RL-1 failed at the coil... Not dirty contacts within the relay.... The coil just would not actuate...It was the original relay and Guess this was just one of those things that "normal" fault does not cover.I have been using the radio for several days, now, and all seems well..I felt the need to let the group know of my experience in hopes that others will benefit...Best of 73's and VERY Merry Christmas...To ALL>

Mike (KD2DYY)

50501. Re: TS 820 saved from land fill

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-14 20:07:11 UTC
From: jstevenorr@...
Topic: 50495 Message: 50501

Congrats! How did u find it? Steve W5SO

50502. Re: [TS-520_820_530_830] Re: Missing Wire on a TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-14 21:05:34 UTC
From: roberteleazer@...
Topic: 50447 Message: 50502

Terry:

I checked and the foil side marking for both the original rectifier board and the replacement one both say "J25-0936-24" So I got lucky with that.

Now I am puzzling over two things:

1. A yellow wire that comes from a terminal strip over by the power output section anc apparently goes to the rectifier board.

2. While trying to figure out where the yellow wire goes I consulted the photos I took of the set at the start of the repair effort and it appears that ALL of the posts on the rectifier board had wires attached to them.

What Fun!

Thanks!

Robert

50503. Re: TS 820 saved from land fill

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-14 21:08:43 UTC
From: roberteleazer@...
Topic: 50495 Message: 50503

Great! Reminds me of the best TS-520 deal I ever saw on ebay. A TS-520 with remote VFO was sold by a metals salvage company in Los Angeles for $50, Buy It Now. The guy who bought it probably broke his keyboard hitting the Buy button so hard.

Robert
WB5WSV

50504. Great new KW hybrid repair tools

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-14 21:15:08 UTC
From: Craig Roberts
Topic: 50504 Message: 50504

A few months ago -- inspired by postings from our mutual friend Terry -- I bought a Hakko 808 Desoldering Kit. To date, this purchase has represented the best value-for-money I have ever spent on an electronics repair tool, especially considering the fragility of the Kenwood hybrid and TS-940 circuit board traces I've been messing with lately. Soder-Wick and its derivatives, with their tendency to damage the very delicate Kenwood PCB foil, is now largely obsolete in my practice.

I have recently added a couple more very handy tools to my bench. One is a small battery operated screwdriver. The one I have is a Ryobi model HP53L, though several manufacturers offer similar devices. This little tool makes Kenwood cabinet removal and replacement, with their seemingly scores of fasteners, quick and easy. In the past, I have actually procrastinated on service tasks simply because I didn't want to bother with the tedium of removing all the screws that hold our radios' skins on. No more. The motorized screwdriver actually makes the job kinda fun.

The other new and even more valuable tool is a AOYUE Model Int 936 "Professional Soldering System." It's a temperature controllable, ESD Safe soldering station similar to the much more expensive Hakko and Weller offerings. Okay, it's from China, but is very sturdily built and, after extended use, continues to work perfectly. It doesn't have a digital temperature readout like some other soldering stations nor is it a fully fledged "rework station" (with desoldering feature) like some others, but for precision soldering it's just dandy. The U.S. vendor in Walpole, Massachusetts, a fella named Stan Rubenstein, offers higher end, more feature-laden AOYUE soldering stuff, too.

In case we don't meet again before the 25th -- Merry Christmas!

73,
Craig
W3CRR

50505. RE: [TS-520_820_530_830] RL-1 repair.....on Ts 830s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-14 21:36:52 UTC
From: fpath fpath
Topic: 50500 Message: 50505

Hi Mike,

Congrats on your repair. The RL1 relay is one of the most failed parts in the Hybird line up and one of the first areas checked during fault finding, as alot of faults are caused by this little over worked relay. Ken, K4eaa, has avaialbe a daugther board that is a direct replacement for this troublsome relay, far superior in my opinion. Unfortunately, you have found out how easy it is to lift pads due to over heating. The Hako 808 is highly recommended for most work on the hybird boards. enjoy your radio and many years of ham communication

73s
Dave
VK5PDL

50506. Great new KW hybrid repair tools

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-14 20:47:40 UTC
From: Craig Roberts
Topic: 50500 Message: 50506

A few months ago -- inspired by postings from our mutual friend Terry -- I bought a Hakko 808 Desoldering Kit. To date, this purchase has represented the best value-for-money I have ever spent on an electronics repair tool, especially considering the fragility of the Kenwood hybrid and TS-940 circuit board traces I've been messing with lately. Soder-Wick and its derivatives, with their tendency to damage the very delicate Kenwood PCB foil, is now largely obsolete in my practice.

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In case we don't meet again before the 25th -- Merry Christmas!

73,

Craig
W3CRR

50507. Kenwood Hybrid Net Update (December 14, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-14 23:47:24 UTC
From: Mark Gilger
Topic: 50507 Message: 50507

Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm
The net started it's existence on November 1st,
2012. The yearly check-in totals are posted at
the bottom of this message. It showed we had a
10% increase in our Saturday check-ins and an 8%
on Sunday as compared to the 2012 check-ins.

The Saturday's net was run by me, WB0IQK. There
were 24 stations checking in under good band conditions.

We had the following number of radios checking in.

3 running TS-520(x)
3 running TS-530(x)
7 running TS-820(x)
6 running TS-830S
0 running TS-511
0 running TS-511
0 running 599 twins

I was running my TS-830s & Drake L4B amplifier.

The Sunday net was run by me, WB0IQK. There were
16 stations checking in under fair band
conditions. He had the following number of radios checking in.

1 running TS-520(x)
2 running TS-530(x)
1 running TS-820(x)
2 running TS-830S
0 running TS-510
0 running TS-511
0 running 599 twins

The rest were running non Kenwood hybrid equipment.

He was running my TS-940S + Drake L4B amplifier.

We have been having several people checking in
regularly with their TS-430, TS-440, and
TS-940□s, which of course is not a hybrid,

although over 30+ years old. Everyone is welcome
as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a
net control station, please send me an email.
Currently it's just myself, WB2KNR and WB0SGA. I
would like to get several more. If we do, we can
alternate so everyone might be on a 3-4 week
rotation. It's a lot of fun and a good way to
make sure you station is optimized.

For anyone that has not heard, we have a new web
site that WB4HFN is hosting. He currently has a
very nice site for Drake, Collins and Heathkit
and now Kenwood Hybrids. Good quality manuals
plus sale flyers and brochures will be found
here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 ☐ Oct. 2012 Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins
Nov. 2013 - Oct. 2014 Saturdays total 842 check-ins, Sunday total 744 check-ins

November 2014, Saturday☐s net total 142, Sunday☐s total = 88

December 2014, Saturday☐s net total 44, Sunday☐s total = 37 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

50508. Re: TS-820S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-15 03:19:19 UTC
From: kk6iux@...
Topic: 66 Message: 50508

WOW!!! Thank you all so much. I appreciate the answers. Mike, you especially brought to light some things I wasn't aware of.. Thank you for "dumbing" it down for me..

73 Trevor KK6IUX

50509. In search on info for TS120v

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-15 10:32:06 UTC
From: m0dbo@...
Topic: 50509 Message: 50509

Hi all wondering if anyone knows of a group lke this for the Kenwood TS120v as I have just accquired one to replace my dead TS530sp I have done a search but can not find a group for the TS120v.

thanks Nigel M0dbo

50510. Re: TS 820 saved from land fill

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-15 09:16:28 UTC
From: beeson.neil@...
Topic: 50495 Message: 50510

I was talking to a friend and he said he had it in his shed if I wanted it,and I could have it for the $50. A matter of right place right time and people knowing I love Hy-brids. He's also got a Yaesu FT 101 in same condition, looks like I'm going to score that one for another mate that's into 101's for same price 73
Neil
VK6NSB
P.S.
My TS 520SE when I got it had NEVER been plugged in, it's in the photo section and is used every weekend. Paid $300 for that with never used AT-230 and a 240v to 220v transformer

50511. Re: Test Equipment Shopping

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-15 12:03:17 UTC
From: christopherlarwood@...
Topic: 50064 Message: 50511

Good subject as I am slowly getting a few instruments together for learning and aligning hybrid radios.
Now have DMM, Analogue MM, and Digital Storage Scope

Mike gives a good overview but the availability of that gear in Australia is rare and purchasing from US is not really viable - apart from postage cost, there is the high risk of damage to old fragile test equipment in transit.

So what specs should we be looking for in a frequency counter and rf signal generator? - I don't mind 80s/90s era for my basic needs as the earlier tank like instruments are not very portable!

A few possible models I saw mnetioned
Leader LSG-3215, 3216
Panasonic VP-7633A, VP8131A, VP-8174A, VP-8175A

Regards
Christopher - Vk5LTD

50512. Re: Test Equipment Shopping

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-15 14:09:57 UTC
From: w5rkl@...
Topic: 50064 Message: 50512

Christopher,

A good frequency counter is the Sinometer VC2000. It covers the 10Hz to 2.4Ghz. It also has a "fundamental" crystal check feature.

Another good frequency counter, without the crystal check feature, is the VC3165 Frequency Counter. It has the same frequency range as the VC-2000, 10Hz to 2.4Ghz.

Another inexpensive frequency counter is the Heathkit SM-2420. It has a frequency range from 5Hz to 500Mhz.

There are a variety of inexpensive signal generators.

1. Heathkit IG-102. I use a frequency counter with mine to ensure the applied frequency is correct.
2. URM-25 military surplus. Heavy and getting harder to find in good working condition

There are a variety of Volt meters.

1. Heathkit IM-5225 FET volt/ohm/ma meter
2. Heathkit IM-5238 FET AC volt meter
3. Heathkit V7A, IM-11, IM-18, and SM-5218 are all very good analog VTVMs.

I have #1, #2, and a few of #3 meters.

DVM/DMM are plentiful. Make sure you pay attention to the meter's input impedance, should be at least 10meg or higher in both AC and DC ranges. I have a list of DVM/DMMs I use on my website

W5RKL http://www.w5rkl.com

W5RKL http://www.w5rkl.com Welcome to my Amateur Radio website. 73 Mike W5RKL email: w5rkl@yahoo.com

View on www.w5rkl.com http://www.w5rkl.com
Preview by Yahoo

Click on the Manuals, Docs, and Mods link and when the page comes up, scroll down to TEST EQUIPMENT SPECIFICATIONS list and click on the link. The text file lists the meters I use and their input impedance ratings.

An inexpensive scope is a good investment. One that has at least 50Mhz rating. there are plenty of scopes on eBay and other on-line websites.

Learn on the inexpensive gear first. Once you have become good at using the inexpensive gear you can graduate to more expensive gear with more features.

73
Mike W5RKL
www.w5rkl.com http://www.w5rkl.com

50513. Re: [TS-520_820_530_830] Re: Test Equipment Shopping

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-15 21:58:36 UTC
From: Lou Blasco
Topic: 50064 Message: 50513

Hi Chris,

Yes it's a real problem getting good quality test
equipment down here. Shipping from the US can be
really expensive and some sellers don't ship to Australia.

The Jaycar frequency counter is a good unit that
reads to over 2.6GHz and quite a good price.

The supply of good generators at a reasonable
price in Australia has dried up in the last few
years but they still appear on VKham classifieds
from time to time. VK3XYZ deals in surplus test equipment and is reliable.

Whatever you get, make sure it has a good
attenuator either digital or manual (10dB/1dB
steps) and a good frequency readout or provisions
for a frequency counter output. Don't be afraid
of big cheap boat anchors if you can get one as a
starter - I have a Marconi 2002B which weighs
over 30kg but puts out a nice clean signal down to -127dBm

Good luck with your search

Lou
VK3ALB

At 23:03 15/12/2014, you wrote:
>
>
>Good subject as I am slowly getting a few
>instruments together for learning and aligning hybrid radios.
>
>Now have DMM, Analogue MM, and Digital Storage Scope
>
>
>Mike gives a good overview but the availability
>of that gear in Australia is rare and purchasing
>from US is not really viable - apart from
>postage cost, there is the high risk of damage
>to old fragile test equipment in transit.
>
>
>So what specs should we be looking for in a
>frequency counter and rf signal generator? - I
>don't mind 80s/90s era for my basic needs as the
>earlier tank like instruments are not very portable!

>
>
>A few possible models I saw mnetioned
>
>Leader LSG-3215, 3216
>
>Panasonic VP-7633A, VP8131A, VP-8174A, VP-8175A
>
>
>Regards
>
>Christopher - Vk5LTD
>

50514. Re: Test Equipment Shopping

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-15 22:42:54 UTC
From: roberts@...
Topic: 50064 Message: 50514

Hi Chris, Yep, agree with Lou that good test gear is hard to find here in Oz... I'm not sure if you have a specific need to test AM/FM broadcast receivers as the signal generators you have mentioned will do this. Keep an eye out at the Ham fests as well. There are a few reputable people dealing in this sort of gear that attend these events on a regular basis. I saw a HP 8656A going for about $ 275 the other week (as well as a HP 8901 for $ 200) down at the SPARC hamfest.
Keep an eye out for Rohde and Schwarz, Hewlett Packard, Marconi and IFR gear.. all good work horses (plus there are many more brands as well)
Cheers,
Rob VK3BRS

50515. FS: Almost perfect 2 Year old KENWOOD TS-520S station

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-16 00:29:36 UTC
From: Kent Hufford
Topic: 50515 Message: 50515

FOR SALE: 2 year old Kenwood TS-520S with matching 520 external VFO w/cable and matching TS520 Speaker. Internal PS, runs off of 125vac.

Equipment was purchased in 1977 and put in the closet when owner went SK in 1979. Equipment had plastic dust covers on all, all this time. Almost perfect.

Does have 2 years' worth of use, plus a little plastic rubbing. Leather handle looks brand new. Operates on all bands, 100 watts output.

Original Owner's manual, Original Sales receipts from Nov 1977. Original Log book 1977-1979.

Absolutely gorgeous! Should not go to a new ham as "first radio". Would like to sell complete for $475. Shipping extra.

OR trade for a later model Kenwood or ICOM; 440SAT, 450SAT, 735. Equipment is to support a public Middle School HAM Club.

Photos available. In Aiken SC area

Kent

KQ4KK

khufford@... <mailto:khufford@...>

803-392-7339

50517. TS-820S MH4P Relays

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-16 15:10:33 UTC
From: wagstw46@...
Topic: 50517 Message: 50517

Off reflector question worth sharing.

Question:

Noticed that the two Omron MH4P relays in my TS-820S have different coil resistance. Why and does it make any difference which position I put them in. Asking as I pulled both and dont remember which goes where.

Answer:

There is a good reason why they have different coil resistance and yes it does make a difference which position. In the past I have responded here that in troubleshooting a problem OK to swap the relays and if problem is fixed then you know relay contacts are the root cause of the problem and not bad molex connector or other source. Now carefully remove lexan cover and very carefully clean the contacts. OR buy a NOS sub relay #401013-S from Kens Electronics in Kalamazoo Mi.

My advice should have been better.

I should have said to check which relay is in what position as you have no idea if previous owners have swapped them and to make sure after any troubleshooting by swapping and/or cleaning to place the relay with the 300 ohm coil in the Ant TR position and to place the relay with the 385 ohm coil in the Aux position.

The 300 ohm relay under metal shield can is what I call the Ant TR Relay and the 385 ohm relay in middle bottom of rig on the Relay Unit board is what I call the Aux Relay. It switches auxiliary functions like rx and tx bias. These MH4P relays have different coil resistances for an important reason and that is timing co-ordination or sequencing of the opening and closing to prevent "HOT SWITCHING" of RF current on the TR relay contacts. You always want the relay contact that is connected to the SO-239 that switches the antenna from the receiver front end to the pi-network output to not actuate whenever RF drive is present. Opening of contacts with rf current on them and RF voltage across them can cause an arc and both contact surfaces can be eroded away prematurely. This effect is magnified with transmission line and higher VSWR (reactive antenna load).

As mentioned the Aux relay performs the function of controlling RF drive turn on and off and it takes something on order of 3 to 5 msec for the RF current to completely decay after the TIF amp, Transmit Mixer, and Driver tube are biased off.

If you look at the MH4P relay in the TR position will see it has 300ohm coil which means approx 40ma current and it will switch faster as it will develop higher current which means higher flux concentration. However, it will also then switch back slower as the flux field will decay slower when the coil voltage is removed. We want this relay to close before RF drive is turned on to the final tubes and we want it to open after RF drive is turned off and rf current has decayed. Lastly if you look closely at the contacts on this MH4P relay you will see one contact that is about 2x the size of all the other contacts. Again this is by design to handle the RF current. Normally approx 1.4 rf amps into 50 ohm dummy load.

If you look closely at the lexan case on the 300 ohm TR relay you should see the letters TRI-2. This is another clue that it belongs in the Ant TR position. By the way you wont find this info in the MH4P data sheets that I have been able to locate. Perhaps Omron made these special MH4P relays for KW? The Aux relay has no such lettering on the lexan case unless previous owner has switched the covers during cleaning exercise. The coil resistance on the Aux relay is 385 ohms which means approx 30ma coil current and slower actuation time and faster contact opening time than the TR relay. To understand this hit the books and refresh yourself on inductors and ELI the ICE man and what happens to current and the flux field in an inductor when it is energized and de-energized.

OK both relays are obsolete. You can use Kens Electronics Fujitsu NOS sub #401013-S which has a 235 ohm coil (50ma). I would place it in the Ant TR location as it should close faster and open slower. However, it does not have that one heavy contact. I would not use it in the Aux position.

Summary:

There is a design reason why the two MH4P relays have different coil resistances and one heavier contact. Place the 300 ohm unit in the Ant TR location and the 385 ohm unit in the Aux position. OK to swap for troubleshooting and then swap back. OK to clean and if cant improve with paper wetted with Deoxit go ahead and burnish with diamond point file (nothing more abrasive than this or could remove design coatings). OK to install Kens NOS sub in the Ant TR position. However, realize its contacts may not last as long as original.

1. Will the rig work if you swap the relays? Certainly.
2. Will it accelerate contact wear? Of course.
3. Will that be measurable? It depends on your length of transmission line and reactive antenna loads you are switching and what condition contact is presently in. Might accelerate contact deterioration by factor of 100X?
4. Is there any way I can measure the contact resistance and what should it be? Yes can use the "6-1" test by applying approx 6vdc across each set of closed contacts and limiting the current to 1amp with series resistor or lite bulb. Then measure the millivolt IR drop across the contacts. Should be under approx 100 mv which equates to 100 milli-ohms. Most hams do not have a milli-ohm meter and simply measure contact resistance with an ohm meter and that is not a good test.
5. Can I electrically clean the contacts if chemical cleaning doesnt help? Yes use a little more power. Suggest trying 12vdc current limited to probably no more than 2 amps and applying across the contact and keying the relay multiple times and then repeat measuring the mv drop across the contact to see if getting any improvement ie lowering the mv reading. Some of what you may be seeing is relay contact actuation leaf damage due to rough cleaning operations and almost impossible to get them back to factory new position, tension etc.

Sorry so long and sorry if I previously advised anyone that it was OK to swap the two relays without telling you to make sure to swap them back in to the correct positions so that they can perform the relay timing sequence that those dumb old KW design engineers intended.

Dont worry about the TS530 and TS830. Need same relay sequencing to avoid hot switching the TR relay but two very different relays employed and not possible to switch their positions. Of course some other issues which have been more than adequately addressed with these two relays.

Terry K9TW

50518. Items for sale

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-16 19:36:08 UTC
From: w5rkl@...
Topic: 50518 Message: 50518

I have the following items for sale

1. Kenwood R599 receiver. Works fine but the VFO warbbles slightly when tapped. It has both 6 and 2 meter converters installed. $180 plus shpping

2. Allied A2516 ham band only plus WWV receiver. Works very well, no dents, normal wear. $85 plus shipping

3. Heathkit DX-40 CW/AM transmitter, HG-10B and VF-1 VFO, includes a separate power supply that powers either the HG-10B or the VF-1. A toggle switch on the separate power supply, center OFF, determines the B+ and Filament voltage at the octal socket on the supply. They all work fine, normal wear and tear. DX-40 is missing the crystal door on the rear. the VF-1 front panel is not perfect but it does not have any dents or extra hole drilled. $140 plus shipping.

If interested contact me off group.

73
Mike W5RKL

50519. Re: TS-820S MH4P Relays

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-16 21:11:15 UTC
From: wq8q@...
Topic: 50517 Message: 50519

And how many of us went and opened up their TS-820's to ensure the proper relays were in their correct positions? Mine were! Happy Happy!
There has been so much wonderful tech information here the last couple of weeks that someone probably should write a Kenwood Hybrid Survival Book.

You need to add a message signature to your messages before you post them to the group.
73
Mike W5RKL
Yahoo Kenwood TS_520_820_530_830 Group Moderator

50520. Re: Missing Wire on a TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-16 22:35:20 UTC
From: roberteleazer@...
Topic: 50447 Message: 50520

Terry:

Well, things fell into place over the last couple of days. As I mentioned, the "Tan" wire was in reality a White wire. And the real Tan wire went to the voltage divider on the terminal strip you mentioned. The output from the voltage divider is a yellow wire and that goes to STB on the Rectifier Board.

I had photographed the rig before I started taking things apart, and that was a help mainly in being able to see that all of the posts on the old Rectifier Board were indeed in use - although since all the outputs had been severed and jumper wires inserted the photos provided no real help in figuring out what was really supposed to go where.

However, on my working TS-520, 60,000 or so serial numbers later in production than the one being repaired, the Tan wire does NOT go to the voltage divider network but goes straight to the STB post on the Rectifier board. Obviously, there must be some change in the board at the other end of the wire.

I only get to work on the TS-520 repair maybe 1 or 2 hours a day at best, but I am optimistic that I will be able to apply AC power by the weekend.

Thanks to you and Mike for all your help, again!

Robert
WB5WSV

50521. TS-830 (Warning - Newb)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-16 22:46:09 UTC
From: ebelew@...
Topic: 50521 Message: 50521

First a disclaimer - I'm new to the Ham world and working on my test/license. So I listen and learn a lot first.

I was given a TS-830s by a family members and learning about it. I have questions about the accessories for it. I'm sure all would be nice to have but do I really need to spend the time and money on them.

VFO-230 and/or VFO-240 - Do I need either or both or none.

MC-50 - I'm sure the original MIC would be nice to have?

AT-230 Antenna Tuner - Nice to Need?

SM-220 Monitor Scope - Nice (but expensive)

I probably just need to spend my time studying :-) but I'm curious.

Thx
Eddy

50522. Re: TS-830 (Warning - Newb)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-16 23:03:17 UTC
From: w5rkl@...
Topic: 50521 Message: 50522

Eddy,

You do not need the VFO-230 or VFO-240 to operate the TS-830.
The MC-50 is a nice microphone will work well with the TS-830.
AT-230, I would stick with basic dipole antennas designed and tuned to the band you will be operating in.
SM-220, you don't need that right now.

Yes, spend time studying for your license. Once you pass the exam and obtain your license you will need to gain some experience operating, not looking at or thinking about accessories for your TS-830.

Also, read the TS-830 operator's manual "thoroughly" before you attempt to operate the transceiver. Many operator errors can be avoided if the operator would spend time studying the manual.

73
Mike W5RKL
www.w5rkl.com http://www.w5rkl.com

50523. Re: [TS-520_820_530_830] Re: Missing Wire on a TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-16 23:07:15 UTC
From: Mike W5RKL
Topic: 50447 Message: 50523

I looked at the operator's manual for the TS-520 (one is pdf and the other is Djvu). The pdf copy shows the voltage divider "on the Rectifier Unit" while the Djvu copy show the divider separate from the Rectifier Unit. It appears the STB divider change was done in later versions of the first TS-520.

73
Mike W5RKL
www.w5rkl.com

On 12/16/2014 4:35 PM, roberteleazer@... [TS-520_820_530_830] wrote:
>
> Terry:
>
> Well, things fell into place over the last couple of days. As I
> mentioned, the "Tan" wire was in reality a White wire. And the real
> Tan wire went to the voltage divider on the terminal strip you
> mentioned. The output from the voltage divider is a yellow wire and
> that goes to STB on the Rectifier Board.
>
> I had photographed the rig before I started taking things apart, and
> that was a help mainly in being able to see that all of the posts on
> the old Rectifier Board were indeed in use - although since all the
> outputs had been severed and jumper wires inserted the photos provided
> no real help in figuring out what was really supposed to go where.
>
> However, on my working TS-520, 60,000 or so serial numbers later in
> production than the one being repaired, the Tan wire does NOT go to
> the voltage divider network but goes straight to the STB post on the
> Rectifier board. Obviously, there must be some change in the board at
> the other end of the wire.
>
> I only get to work on the TS-520 repair maybe 1 or 2 hours a day at
> best, but I am optimistic that I will be able to apply AC power by the
> weekend.
>
> Thanks to you and Mike for all your help, again!
>
> Robert
> WB5WSV
>
>

This email has been checked for viruses by Avast antivirus software.

http://www.avast.com

50524. Re: [TS-520_820_530_830] TS-830 (Warning - Newb)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-16 23:19:58 UTC
From: Joseph Stiles
Topic: 50521 Message: 50524

Eddy,
Welcome and good luck on taking your exam.
The accessories you mentioned are nice, but for someone just starting out, I will suggest sticking with the basics. I still have my 820S. When I started I had that and the MC-50, a second hand Drake MN-4 matching network(manual tuner) an my straight key...and worked 80 countries on 10meters SSB and about as many on 40 meter CW. I did not get the remote VFO until about 4 years after I got the rig.

Learn how to properly operate your 830 with the basics FIRST. A Well tuned up and operating rig and antenna system is much better...that a bunch of extra "fluff" that you really don't need at the start. These items are not cheap..but the MC-50 could be had for a good price..or an old SURE D-104 "lollypop" is also good.
Topics like this generate LOTS of responses...so just be aware you'll get lots of "recommendations." hihi
Just my humble opinion
 73 Joe
WB7UQU

On Tuesday, December 16, 2014 2:58 PM, "ebelew@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

  First a disclaimer - I'm new to the Ham world and working on my test/license. So I listen and learn a lot first.

I was given a TS-830s by a family members and learning about it. I have questions about the accessories for it. I'm sure all would be nice to have but do I really need to spend the time and money on them.

VFO-230 and/or VFO-240 - Do I need either or both or none.

MC-50 - I'm sure the original MIC would be nice to have?

AT-230 Antenna Tuner - Nice to Need?

SM-220 Monitor Scope - Nice (but expensive)

I probably just need to spend my time studying :-) but I'm curious.

Thx
Eddy

50525. Re: [TS-520_820_530_830] TS-830 (Warning - Newb)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-16 23:42:52 UTC
From: Louis Wilen
Topic: 50521 Message: 50525

The first things to procure are:

(1) a dummy load capable of handing 150 watts (or more).
(2) an HF wattmeter (or SWR/wattmeter), preferably with true PEP metering

The AT-230 Antenna Tuner offers no benefit over other good antenna tuners other than appearance – but if you can pick one up that is in good shape at a reasonable price, go for it.

The MC-50 mic will give you good audio, but so will many other mics. That said, I use an MC-50 and consistently get compliments about my audio, so I don’t feel the need to get a “better” mic.

Louis
W3VVV

From: mailto:TS-520_820_530_830@yahoogroups.com
Sent: Tuesday, December 16, 2014 5:46 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: [TS-520_820_530_830] TS-830 (Warning - Newb)

First a disclaimer - I'm new to the Ham world and working on my test/license. So I listen and learn a lot first.

I was given a TS-830s by a family members and learning about it. I have questions about the accessories for it. I'm sure all would be nice to have but do I really need to spend the time and money on them.

VFO-230 and/or VFO-240 - Do I need either or both or none.

MC-50 - I'm sure the original MIC would be nice to have?

AT-230 Antenna Tuner - Nice to Need?

SM-220 Monitor Scope - Nice (but expensive)

I probably just need to spend my time studying :-) but I'm curious.

Thx
Eddy

50526. Re: Missing Wire on a TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-17 00:31:40 UTC
From: wagstw46@...
Topic: 50447 Message: 50526

If you have a STB post on the HV rectifier board then no need for terminal strip at the 6146 tube socket or R16/R17 and no need for anything different on the audio board. R9/R10 100k resistors on the HV Rect board serves same purpose to divide 210A in half (approx 100 vdc). Can then be fed directly to the audio board STB terminal to bias on D3.

Terry K9TW

---In TS-520_820_530_830@yahoogroups.com, <roberteleazer@...> wrote :

Terry:

Well, things fell into place over the last couple of days. As I mentioned, the "Tan" wire was in reality a White wire. And the real Tan wire went to the voltage divider on the terminal strip you mentioned. The output from the voltage divider is a yellow wire and that goes to STB on the Rectifier Board.

I had photographed the rig before I started taking things apart, and that was a help mainly in being able to see that all of the posts on the old Rectifier Board were indeed in use - although since all the outputs had been severed and jumper wires inserted the photos provided no real help in figuring out what was really supposed to go where.

However, on my working TS-520, 60,000 or so serial numbers later in production than the one being repaired, the Tan wire does NOT go to the voltage divider network but goes straight to the STB post on the Rectifier board. Obviously, there must be some change in the board at the other end of the wire.

I only get to work on the TS-520 repair maybe 1 or 2 hours a day at best, but I am optimistic that I will be able to apply AC power by the weekend.

Thanks to you and Mike for all your help, again!

Robert
WB5WSV

50527. Re: TS 820 saved from land fill

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-17 02:36:17 UTC
From: christopherlarwood@...
Topic: 50495 Message: 50527

Nice get Neil !
I saw a FL-2100B in WA gumtree go for $100 not long ago - would have needed some work but still a good buy for a project. There are some good deals out West it seems. Right Place, Right time or vigilant searching

Vk5LTD Christopher

50528. Re: [TS-520_820_530_830] TS-830 (Warning - Newb)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-17 00:35:22 UTC
From: ebelew@...
Topic: 50521 Message: 50528

Thanks. I thought maybe there might be a lot of different feedback. And that is ok. Part of learning. What's the difference in the 230 and 240 VFOs?

50529. Re: [TS-520_820_530_830] TS-830 (Warning - Newb)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-17 03:20:57 UTC
From: ebelew@...
Topic: 50521 Message: 50529

Do you have a suggestion on which/what to get for each of these? Probably a whole nother conversation.

50530. Re: TS-830 (Warning - Newb)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-17 01:00:49 UTC
From: ebelew@...
Topic: 50521 Message: 50530

Thx, good advice.

50531. Re: TS-830 (Warning - Newb)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-17 05:28:20 UTC
From: bauertom@...
Topic: 50521 Message: 50531

Hi Eddy,
Welcome to the club - ham and Kenwood hybrid. Opinions are like navels, everybody has one... Here's mine.

I have an 830S also. Purchased new in 1983. I have pretty much everything Kenwood offered for that vintage - purchased as non-essential "toys" over the years. That said, equipment-wise, I can't imagine operating initially without an antenna tuner with SWR and power meters. How else would you know what was going on with your antenna, rig and feed lines? I have always used the AT-230. It has done everything I needed, but any decent tuner will do. I did have a serious wire antenna bug though. Probably my least used pieces of equipment are the external VFO-230 and the SM-220.

Socially and educationally, seek out the ham clubs in your area and find an "Elmer." This would be a guy(s) that would answer the hundreds of questions you'll have and point you in the right direction on equipment, antennas, feed lines, etc., and get you on the air! You have the Cadillac of the hybrids IMHO and an excellent base component of your future station. If you have a local ham radio store (candy shop), you'll find them very helpful too.

My Elmer pointed me to the TS830S and accessories. I have been in his debt ever since. Also, in hooking up with hams in your area, you'll find them very generous. My Elmer gave me some equipment to use on "permanent loan." That meant I could use it until he needed it - which he never did. After 31 years, I still have his Collins R390. Since you don't have a callsign yet, I can't determine your location. (Look me up on Hamcall or ARRL.) I have some items, like a surplus MFJ 300W dummy load that you could have on "permanent loan." You'll find local guys that will do this.

In acquiring additional equipment, IMHO, eBay is over priced. Best bargains can be found at ham fests, estate sales, etc. I recently purchased a Heathkit IM-18 VTVM at a ham fest for $8. They go for $40-50 on eBay, including shipping.

Good luck on your test. A little studying and you'll find it a piece of cake. BTW, sites like ARRL and eHam are very generous with helpful info. Join them. And free practice exams are all over the web. Just make sure you get the current question set. The FCC changes these every few years. If you prefer books, ARRL is the place to go.

73

Tom
KE0ABA
(Formerly KA8RTD)

50532. TS-530S suddenly lost RX

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-17 18:26:25 UTC
From: yellow_kite@...
Topic: 50532 Message: 50532

I have a TS 530S that I left working and next morning Very poor Rx sensitivity. Only the very strong signals come through.

I suspected a front end blow up as I might have accidentally transmitted from from another radio in the shack while the 530 was connected to antenna.

Opened the radio and measured Voltages across Q1on RF board. The Voltage on AGC gate should be 2.4 Volts according to service manual. It was 0.710 volts. Replaced Q1 which is a 3SK73 with a 3N200. Still same situation. Same voltages. The transmit is 100 percent perfect.

Any pointers guys ? Thanks in advance

VU2YK

50533. Re: [TS-520_820_530_830] TS-530S suddenly lost RX

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-17 18:45:54 UTC
From: Joseph Stiles
Topic: 50532 Message: 50533

vu2yk,
(pse include ur name next time. tnx)
It is quite possible that you have fried "L-41," which is the antenna step up transformer...and marked as "1.8" on the RF board...and maybe...I think D-2...which it right next to it. It is not uncommon. Can you get a good strong "cal signal?" If you can inject a signal prior to L-41...if the injected signal is not there or very, very weak...versus a signal injected after L-41 is loud and strong...is quite likely that L-41 got fried. Hey it happens!
Unfortunately, L-41 is no longer available from Kenwood. The options are: rewind it(a short tutorial diagram is available in the "files section" of the group...thanks to Gordon/n6wk(SK) with #42 enameled wire and LOTS of magnification..and a steady hand, or find a good known goodone. I have heard of someone winding a toroid to approximate the value of L-41...but I do not recall who, or the procedure used 73 Joe
WB7UQU

On Wednesday, December 17, 2014 10:26 AM, "yellow_kite@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

I have a TS 530S that I left working and next morning Very poor Rx sensitivity. Only the very strong signals come through.
I suspected a front end blow up as I might have accidentally transmitted from from another radio in the shack while the 530 was connected to antenna.
Opened the radio and measured Voltages across Q1on RF board. The Voltage on AGC gate should be 2.4 Volts according to service manual. It was 0.710 volts. Replaced Q1 which is a 3SK73 with a 3N200. Still same situation. Same voltages. The transmit is 100 percent perfect.
Any pointers guys ? Thanks in advance
VU2YK

50534. Re: TS-530S suddenly lost RX

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-17 19:15:42 UTC
From: wagstw46@...
Topic: 50532 Message: 50534

Very hard for average ham to accurately measure the AGC control voltage on Gate 2 of any of the gain controlled mosfets. Need very high input Z meter. One of the best is a HP-410C with over 100meg input Z.

Absent that kind of meter use a 11 meg VTVM. After that a 10meg DMM but make sure it is 10 meg on the range you will be using. Many DMMs are range dependent and can be as low as 2 meg input Z on the lower voltage ranges and will really drag down the AGC bus. Even a 11meg VTVM will pull the normal 3.2vdc down approx 0.60vdc to around 2.6 vdc or lower and drive the S-meter upscale. Not knowing what meter you used it is possible you pulled the AGC bus voltage down to 0.7vdc attempting to measure it.

Only way you can have 2.4vdc on Gate 2 is if you have RF gain wide open and RF-1 set to approx 3.2. Then if you measure with 10 to 11meg meter it will pull AGC bus down to around 2.4 to 2.6 vdc. Have to be aware of the effect of your meter on measuring ACG and ALC bus voltage as both are high Z power supplies and cannot support any current.

The way you can tell if your meter is adequate is set RF gain pot to full CW position and see if the S meter is at zero. Now touch meter probe tip to Gate 2 on Q1 or just on the AGC terminal at Molex connector 5 and if S meter moves up scale your meter is pulling the 3.2 AGC bus voltage down. With experience you will learn how much is due to meter and how much indicates a problem. By KW listing Gate 2 voltage as 2.4vdc you can be pretty certain that they used a 11meg VTVM to make the measurements.

So I would measure my RF-1 and make sure it is close to 3.2vdc and then measure AGC bus and see where my meter pulls it down to. If it pulls down 0.6vdc can be assured will pull down Gate 2 to that level or slightly lower.

Not very common to loose Q1. Much more common to loose L41 ant step up transformer due to inadvertant transmit RF.

Easy to trouble shoot. If you have RF sig gen then inject 50uv signal (-73dBm) at the wiper of switch deck S1-2. If no RF sig gen then use mini-grabber test lead and jumper the Marker signal to S1-2. Looking down on the 2nd red/brown deck from above just left of the band switch shaft at approx 1130 will see S1-2.

I cannot part with any of my rewound L41 transformers as reserved for my customers. You might try Dick Housden W0NTA to see if he has one he will sell.

Terry K9TW

50535. Re: [TS-520_820_530_830] Re: TS-830 (Warning - Newb)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-17 21:33:57 UTC
From: Lou Blasco
Topic: 50521 Message: 50535

Some navels are better than others.

Excellent advice Tom.

Lou
VK3ALB

At 16:28 17/12/2014, you wrote:
>
>
>Hi Eddy,
>
>Welcome to the club - ham and Kenwood hybrid. Opinions are like
>navels, everybody has one... Here's mine.
>
>I have an 830S also. Purchased new in 1983. I have pretty much
>everything Kenwood offered for that vintage - purchased as
>non-essential "toys" over the years. That said, equipment-wise, I
>can't imagine operating initially without an antenna tuner with SWR
>and power meters. How else would you know what was going on with
>your antenna, rig and feed lines? I have always used the
>AT-230. It has done everything I needed, but any decent tuner will
>do. I did have a serious wire antenna bug though. Probably my
>least used pieces of equipment are the external VFO-230 and the SM-220.
>
>Socially and educationally, seek out the ham clubs in your area and
>find an "Elmer." This would be a guy(s) that would answer the
>hundreds of questions you'll have and point you in the right
>direction on equipment, antennas, feed lines, etc., and get you on
>the air! You have the Cadillac of the hybrids IMHO and an excellent
>base component of your future station. If you have a local ham
>radio store (candy shop), you'll find them very helpful too.
>
>My Elmer pointed me to the TS830S and accessories. I have been in
>his debt ever since. Also, in hooking up with hams in your area,
>you'll find them very generous. My Elmer gave me some equipment to
>use on "permanent loan." That meant I could use it until he needed
>it - which he never did. After 31 years, I still have his Collins
>R390. Since you don't have a callsign yet, I can't determine your
>location. (Look me up on Hamcall or ARRL.) I have some items, like
>a surplus MFJ 300W dummy load that you could have on "permanent
>loan." You' ll find local guys that will do this.
>
>In acquiring additional equipment, IMHO, eBay is over priced. Best
>bargains can be found at ham fests, estate sales, etc. I recently
>purchased a Heathkit IM-18 VTVM at a ham fest for $8. They go for

>$40-50 on eBay, including shipping.
>
>Good luck on your test. A little studying and you'll find it a
>piece of cake. BTW, sites like ARRL and eHam are very generous with
>helpful info. Join them. And free practice exams are all over the
>web. Just make sure you get the current question set. The FCC
>changes these every few years. If you prefer books, ARRL is the place to go.
>
>73
>
>Tom
>KE0ABA
>(Formerly KA8RTD)

50536. greetings & changes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-18 19:59:04 UTC
From: Joseph Stiles
Topic: 50536 Message: 50536

Greetings Group!
Well, another year is almost gone, and we're still here!

I wish I could thank everyone eye to eye, but that's just not possible.So, thanks to all group members for making this the "place to go forall your KW hybrid needs." I want to especially say thanks to:Mike-w5rkl- group moderator, and Terry-k9tw. Both have assisted thisgroup and its many members, both here, and also on their respective web sites, with their extensive knowledge and assistance.
There will be some very minor changes coming shortly. OK...don't freak out...it's very minor...and just involves some rewording of some "auto send" messages that NEW members to the group will get, and possibly a mass email to all group members regarding the change. If you already follow group policy by properly signing...this will have no effect on you. So, just to sum it up..it just involves proper identification of posts/msgs....ya know...name & call(if any) and not calling the "administrators" naughty names... hihi

I hope everyone has a safe and happy Holiday Season, and remember the men and women serving this country that can't be home with their families! It's because of YOU, that WE are here.....
 73 Joe
WB7UQUTS-520_820_530_830
Benevolent Group Overlord

50537. Well Done!

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-18 20:34:56 UTC
From: Bob
Topic: 50537 Message: 50537

And I for one am very glad you are here, all of you.
When I got fed up with my ICOM-7000 because I can't use four level deep menu options, I researched and bought my TS-830. I had no idea that so many others were doing the same thing, and that great support was at hand if needed.
Keep up the good work.
Best '73
Bob WA2JAJ/4

50538. TS-530S hum on transmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-18 22:21:25 UTC
From: ku4a@...
Topic: 50538 Message: 50538

I have a TS-530S that receives fine but I've been told the transmit audio is distorted. Listening to a carrier from the rig in CW mode, I hear a good bit of buzz. In general, the power output won't go above about 10 watts.

Is this typically a failure of an electrolytic capacitor in the high-voltage supply? It would be good to know if there are other things I should check as well. It would be nice to avoid having to deal with those high-voltage caps, but if that is the problem I'll replace them.

73
Chris
KU4A

50539. Re: [TS-520_820_530_830] TS-530S hum on transmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-18 22:31:31 UTC
From: Joseph Stiles
Topic: 50538 Message: 50539

Chris,
What does your HV read on the front panel meter? The meter is not 100% accurate, but will give you a good idea. Properly tuned up on desired band and key down, you should see approx 750+VDC, if it's approx half that then you have probably lost 1 of the HV electrolytics.If that is so, replace BOTH. Several kits are available: k4eaa.com and Hybrid Restore(Jim-a7oj).
Is this rig new to you, or have you had it for some time and the problemjust started?
 73 Joe
WB7UQU

On Thursday, December 18, 2014 2:21 PM, "ku4a@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

  I have a TS-530S that receives fine but I've been told the transmit audio is distorted. Listening to a carrier from the rig in CW mode, I hear a good bit of buzz. In general, the power output won't go above about 10 watts.
Is this typically a failure of an electrolytic capacitor in the high-voltage supply? It would be good to know if there are other things I should check as well. It would be nice to avoid having to deal with those high-voltage caps, but if that is the problem I'll replace them.
73ChrisKU4A

50540. Re: Missing Wire on a TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-19 00:29:27 UTC
From: roberteleazer@...
Topic: 50447 Message: 50540

Terry:

I went back and read again your and Mike's comments on the STB post.

So, given that the TS-520 I am working on has a rectifier board that has the STB post, and also has the divider network (and always did have both, apparently) should the yellow wire from the divider network go to the 210A post or the STB post? Right now I can only assume it went to the STB post originally.

Thanks!

Robert

50541. Re: Missing Wire on a TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-19 02:57:34 UTC
From: wagstw46@...
Topic: 50447 Message: 50541

If you have a wire from the center of the two 100k ohm resistors on the phenolic terminal strip that feeds STB on the Audio board I would connect the Yellow wire from the terminal strip to 210A on the HV rect board. Otherwise you will have divided 210A in half to feed the STB post on Rect board and then divided it again by half at the terminal strip to feed STB on Audio board. Would result in approx +50vdc at the Audio board and that is too low to overcome -66vdc that Key supplies.

Suggest you lift the wire off the STB post on the AF board and then temporarily land the yellow wire on 210A and STB a the Rect board and measure the voltage obtained in both configurations at the lifted STB lead to chassis ground.

STB at the Audio Board should read approx +100vdc and not +50vdc. This is from memory but pretty sure it is correct.

Maybe someone who presently has covers off their TS520 can measure STB post on Audio board for you to validate what I am telling you.

You need positive voltage applied to anode of D3 to forward bias it to close the RC feedback loop to get Q6 to oscillate. D3 has two power supplies feeding its anode. One power supply is the +100 vdc fed from STB thru a 1 meg resistor and the other power supply is -66vdc fed from Key thru a 220k resistor.

With the code key up the -66vdc applied to the Key terminal post bucks the +100vdc and D3 is reversed biased. That keeps Q6 from oscillating ie no side tone. With code key down or closed that -66vdc becomes approx -0.25vdc. Now the +100 from STB forward biases D3 thru 1 meg resistor and completes the feedback circuit.

Terry K9TW

50542. No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-19 06:02:58 UTC
From: rrmvargo@...
Topic: 50542 Message: 50542

I am trying to make my 830S parts unit a working unit. I got the display & receiver working. But no transmit. All tubes light. Just a budge of ALC and no bias at all. I found R11 470R on the rectifier board to be open. I replaced it & upon plug in, it smoked right away. I quickly unplugged the radio. I removed the driver tube (I see that one of the 210A connections goes to the screen, have yet to find the other 210B???) & turned the bias control fully counterclockwise, and got the same result. It is late & I'll continue to investigate tomorrow, but thought I ask here to see what are the likely culprits.

Also, is there an EZ way to lift the rectifier board? Thanx – Bob W8RMV

50543. Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-19 11:22:57 UTC
From: wagstw46@...
Topic: 50542 Message: 50543

210B is the pulsating dc output of the SG supply 1/2 wave rectifier D6 and the filter capacitors for it are on the back right corner of the IF board. It is what we would call a Pi filter or a CRC Filter. R11 replaces what would have been a choke in the old days. The Pi filter consists of C180 22uf and R11 470ohm and C181 22uf. The filtered DC from this CRC filter supplies the R122/R13 divider resistors for STB, the screen grid voltage for the Finals, and the Screen grid voltage for the Driver tube thru divider resistors R36 and R37. R11 sees the combinded screen grid current of the three tubes and the two sets of resistive divider current as its load. People tend to blame the sg current as reason for R11 failure and there is seldom a sg grid failure inside the tubes.

Most likely cause of R11 burning up is shorted C180 and C181 on the IF board. Ken K4EAA sells a set of 4 of them so you can also replace the 300B anode supply filter caps at same time. I always recommend customers replace these as cant see the rupture vents and hard to ESR them in place. So if going to pull IF board to inspect and or test then might as well replace all 4. Normal ESR will be approx 1.0 ohms.

Sometimes R36 fails but it usually goes very high or open and not shorted.

If you pull the IF board to replace the filter caps take opportunity to inspect every molex connector soldering.

Terry K9TW

50544. Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-19 11:53:24 UTC
From: wagstw46@...
Topic: 50542 Message: 50544

I forgot to mention that after you install filter caps you can measure the current thru R11 by measuring the IR drop across it.

I have couple of SMD thin sharp meter probes that I can use, but absent that kind of probe can use floral arrangement pins (available at craft stores) and mini-grabber test leads to prod down inside the insulating spaghetti sleeving on each resistor lead. Be careful as dealing with approx 250vdc here.

With rig loaded to 100 watts out into dummy load should see approx 12vdc to 13vdc across R11. I = E/R

or 13/470 = 28 ma. So anything from around 25 to 30 ma is the design load that R11 sees. If see much more than this then need to look at the two divider resistors, but as I mentioned my experience they tend to go high.

Wattage = I squared R or .030 x .030 x 470 = .42 watts. I would use a 1 watt resistor.

Who needs that stink-in Ohms Law stuff!

Terry K9TW

50545. Masking tape residue removal

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-19 05:39:28 UTC
From: jbdkz@...
Topic: 50545 Message: 50545

I am restoring a TS-520SE, at some point a previous owner affixed a piece of masking tape to the case, probably to label it at a sale. The masking tape is long gone but the hardened adhesive residue remains. I have had no luck in removing it. So far I tried Goof Off, Rubbing Alcohol, and Goo Gone.

Any suggestions?

Thanks,

John

KD8SCX

50546. Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-19 13:38:00 UTC
From: rrmvargo@...
Topic: 50542 Message: 50546

Thank you Terry. I will check those caps & report back. I have a set of those caps from Ken & just replaced 4 on a friends 830S as part of the maintenance when I replaced the HV supply caps, one of which had failed (the first one in the doubler). I have an ESR meter & will check them just for grins.

Without removing many wire wraps, is there a best way at lifting the rectifier board? - Bob W8RMV

50547. Re: [TS-520_820_530_830] Masking tape residue removal

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-19 12:33:52 UTC
From: Marcus Horn
Topic: 50545 Message: 50547

Hello John,

On other items I have been successful with ordinary butter, the same thing used in baking and frying pans. It has to be the real stuff though, not margarine. Just apply amply on the area, leave over night and wash off with hot water and mild soap. Repeat if necessary. Hope this helps!

73 de SM5UTT / Marcus

50548. Re: Masking tape residue removal

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-19 12:37:12 UTC
From: wq8q@...
Topic: 50545 Message: 50548

I've had good luck using Mr. Clean Magic Eraser to get rid of a lot of residue and even magic marker off test equipment cases.

73 de Rick WQ8Q

50549. Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-19 14:35:37 UTC
From: wagstw46@...
Topic: 50542 Message: 50549

One correction. As I mentioned you cant see the 22 uf rupture vents as mounted on the PC board, but you can ESR by prodding down inside Conn 14 Pin 1, 3 and 4. Should ESR around 1.5 ohms.

Just have to try to fold the board over to a at least a vertical position towards the xfmr. I have seen a few replacements of R11 by cutting the leads close to the resistor body and tack soldering the new resistor to the stub leads using care not to apply too much heat and melt the solder at the PC board pads.

Terry K9TW

50550. Re: greetings & changes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-19 15:29:58 UTC
From: n7iqv@...
Topic: 50536 Message: 50550

Let me include MY thanks for all that the group's mods and administrators do on a DAILY basis. Joe, Mike, Terry and many others qualify as SUPER-Elmers here. (But Joe...Benevolent Overlord? Please don't confuse this group with "Wait, Wait, Don't Tell Me"!!)

My thanks, also, go out to everyone in the group that takes the time to 1) read the posts before asking the same question(s) over and over, and to those that edit out the pages of formatting, before responding.

May you all enjoy the spirit of the season, regardless of your personal background or upbringing. Let us all continue to help each other and warmly welcome those just getting started with their Kenwood Hybrids.

73 to all, de John/N7IQV

50551. Re: [TS-520_820_530_830] TS-530S hum on transmit

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-19 16:13:47 UTC
From: ku4a@...
Topic: 50538 Message: 50551

Thanks, Joe. I will take a look at the high voltage. "Properly tuned up" is somewhat problematic for this radio as it generally acts strange when attempting to tune up. But I do get some power out with LOAD, PLATE and DRIVE at or close to expected settings.

I bought this radio awhile back to complete my collection of Kenwood hybrids. When someone told me it sounded bad on transmit I put it on the shelf as a "project radio". Now, in retirement, I am starting to work on it. It's in very good shape cosmetically and the receiver is excellent, so well worth the effort.

KU4A

50552. Many thanks

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-19 15:49:43 UTC
From: Graham
Topic: 50552 Message: 50552

I concur with everything that has been said.

The support to others is always very informative and well considered & often, enthusiasitcally delivered.
I read the queries every day but very rarely post. My TS830S + VFO + SP and of course, the MC50 which all work extremely well and in my opinion is far superior to my Icom IC737 for overall quality. My aerial system is a simple 220ft end-to-end horizontal loop driven with an SGC231.

Very best wishes to all for the festive season.

Cheers
Graham
G8ZNK

50553. Re: [TS-520_820_530_830] Re: Masking tape residue removal

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-19 15:54:03 UTC
From: Graham
Topic: 50545 Message: 50553

In the past I have had good results using silicon furniture polish --- aerosol types and let it soak for a little while.

Cheers
Graham
G8ZNK

50554. RE: [TS-520_820_530_830] Re: Masking tape residue removal

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-19 17:39:28 UTC
From: Joe Wolfe
Topic: 50545 Message: 50554

WD-40. Best sticky remover made!

Joe - W7RKN

-----Original Message-----
From: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com]
Subject: Re: [TS-520_820_530_830] Re: Masking tape residue removal

In the past I have had good results using silicon furniture polish --- aerosol types and let it soak for a little while.

Cheers
Graham
G8ZNK

50555. Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-19 23:28:29 UTC
From: rrmvargo@...
Topic: 50542 Message: 50555

Status report:
I removed the IF board & immediately saw the issue. Somehow one of wires on the molex connector had the insulation nicked and the conductor was visible. Plus the last cap, C181, also had the vinyl wrap nicked & the 2 were in contact. Probably happened when the last corner screw was installed. I checked all 4 caps & they were all right around 1.0 ohms for ESR. I forgot to check them for value. Of course I know this does not mean these old caps will be good tomorrow, but since it is a parts unit, I did not put the new caps in. I fixed both issues & reassembled the radio. 60mA Bias was now working as well as the ALC. In fact there is almost too much ALC on 80M as I recall (if I try to keep the ALC in the zone during tune as some suggest). But I can never get to 225mA into a dummy load. Only 80-160mA Ip, depending on band and a max of ~80W out. Some bands were in the 40W range. I believe I was getting ~12-14W during tune. I did go thru the coil pack adj. & drive just in case, but although some were off a bit, it did not help all the way.

So I still have some work to do, but it is getting closer to good parts rig.

Thanx for the help! – Bob W8RMV

50556. Re: greetings & changes

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-19 23:54:49 UTC
From: wagstw46@...
Topic: 50536 Message: 50556

Joe:

Thanks but have to say this year that Mike has carried the lions share of the load.

Been a very busy year for me. I appreciate all the members who sent rigs to me and/or made referrals.

I do try to check the post daily typically in early mornings with my coffee, but just cant devote the time that I use to. Also get quite a few off reflector requests and some phone calls for help.

There are several fellows who when they do come out of the shadows demonstrate they have good fundamental backgrounds and provide technically accurate info and of course a couple who persists with voodoo stuff, but suspect their intentions are good.

I have given up on all the other forums that give advice on KW hybrids as I was spending too much time correcting bum dope and defending my responses. Never want to take advise from someone who says "I dont own a KW hybrid but here is how my Yaesu worked back in 1975"!

We are lucky to have this forum and I know that the admin burden isnt easy.

Wish you and all members much Happiness, Prosperity, and most of all Good Health in the New Year.

Terry K9TW

50557. Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-20 00:46:35 UTC
From: wagstw46@...
Topic: 50542 Message: 50557

There is no such thing as "too much" ALC indication when adjusting the Drive control. That is like saying the Driver stage grid and plate tuned circuits have too much "Resonance".

You are tuning the Mixer LC circuits and Drive coil LC circuits simultaneously to resonance so that you have maximum RF voltage swing (approx 47rms rf volts) at the 6146 control grids. When that happens you will have a control grid that is positive with respect to the cathode and a very very small grid current will flow (ranges from approx 35ua in middle of the black box to approx 45 ua at meter FSD). That is Micro Amperes and not Milli Amperes. Not possible to exceed the 6146 control grid dissipation. Not a Class C CW transmitter.

When that ua grid current flows it causes the ALC amp transistor (which is configured as a dynamic negative low voltage zener diode) to produce approx -1vdc at its Collector which is series opposing the 3.6vdc ALC bus voltage. The ALC meter circuit is a voltmeter that monitors the ALC bus voltage and when it drops from 3.6 the meter indicator moves off zero up scale. The higher it goes the lower the ALC bus voltage and the lower the RF drive voltage to the 6146 control grids. When the bus drops from 3.6 it immediately reduces the TIF amp gain and the RF drive drops and the 6146 grid current cannot exceed approx 40ua or so. None of the meter scales mean anything. Just a way for you to know you have tuned the Mixer and Drive LC circuits to resonance (the frequency where you have the VFO set at). Resonance means max Z which means max RF voltage. All the 6146 control grids need is RF voltage swing sufficient to overcome the dc offset of the operating bias. NO Grid Current is required or desireable for a Class AB-1 grid driven tetrode linear amplifier. We are not using ALC as a measure of grid current. We are using it to tell us when we have max RF voltage at the 6146 control grids. We will have that when we see a Peak in ALC reading and that peak can be anywhere on the meter scales. Just as Relative RF output power can be.

I have talked about this until blue in the face. If it makes you happy to keep the ALC indication within the black printed scale have a ball. I often tell new people if it is easier for them to do that so that they have to commit only one rule to memory then go ahead and keep it withing the black range. That way it assures they will be more likely to do so when modulating in SSB mode when the black range does mean something.

If you can get full scale ALC deflection on all bands then you have a good TIF circuit, good TX Mixer, good Driver tube stage, and good bandswitch contacts switching in the band specific respective Mixer LC circuits and Drive Coil LC circuits. It means you have approx 47rms rf volts at the control grids of the 6146 finals.

Low RF output power then can be attributable to:
1. Bad RF plate choke, bad Plate block/coupling cap, bad RF bypass cap
2. Soft 6146 final tubes
3. Low DC voltages at the 6146 finals tube socket pins especially screen grid voltage
4. Bad fixed padder capacitors
5. Bad Ant TR relay
6. Bad solder connection at the SO-239 connector and/or loose lock nut.

If low power on all bands then not likely that all the padder caps are bad.

Time for me to get back to work.

Terry K9TW

50558. Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-20 01:43:14 UTC
From: rrmvargo@...
Topic: 50542 Message: 50558

Didn’t mean to make anyone blue in the face or take anyone away from their work. I specifically used the word “suggested” to soften the statement some, knowing of past statements pro & con, but only to describe an observation. I have worked on 2 other 830’s & don’t recall such ALC action. When I post here, I am never sure what observations I should post, knowing I risk taking the post into the ditch if not careful. And then there is pg 18 in the manual. Which brings me to the common statement found here and every group & that is to: read the manual. Pg. 18 speaks to keeping the ALC within the “range” and it also says “on-scale”. It is no wonder that this comes up on occasion. Hams are doing what many ask; they are reading the manual. Therefore, this will come up again. Perhaps an errata sheet should be written that replaces that section on pg. 18 and a requirement that all members read and understand

Thank you for your other suggestions. I have already installed the final cage repair kit from Ken & I had tightened the SO239 and checked the solder joint. Have not checked the padder caps, ant. relay, etc. As this unit was a smashed, dirty, nearly deaf, no display, non transmitting unit when I got it, I am pretty happy how it looks & performs at this point. A little more work will make it 100%. – Bob W8RMV

50559. Re: Many thanks

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-20 02:16:36 UTC
From: rrmvargo@...
Topic: 50552 Message: 50559

I am a member of way too many groups. It takes me a few cups of coffee in the morning to get thru them all. This group is the premier group of all that I belong too. So often I just shake my head & smile as I marvel at the knowledge & the commensurate endurance of many individuals here. Thank you all & Happy Festivus. (OK, I like Seinfeld too!) - Bob W8RMV

50560. Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-20 11:24:21 UTC
From: wagstw46@...
Topic: 50542 Message: 50560

Yes it is the single most question that new folks ask about the loading procedure and Kenwood finally with the 830 model simply revised the manual to say keep it inside the black range. Wish they had not done that but it was the easiest thing for them to do.

I dont expect you to take me at my word or anyone elses word on this or any other technical subject on any forum. What I am suggesting is that you think and validate what you read, hear and see. This one is very easy to validate. Place you DMM from VR-2 to FG on the audio board and measure the IR drop across the series combo of R101/R102 while you use varying amounts of Car Level to place the ALC indication any where on the meter scales. You will read approx 0.8vdc. .8/200k= 40ua of grid current.
You can also read from FG to the Emitter of Q19 but have to be careful not short out Q19 leads. There you will read from 0.35 to 0.40vdc. .4/100k = 40ua of grid current.

Lastly dont you think if it was important from standpoint of exceeding the 6146 control grid dissipation or any other limitation that KW engineers would have been smart enough to list the precaution in one of the earlier model operating instruction manuals? No from day one they simple state to peak the ALC indication and if no indication simply increase the CAR level until you get an indication that you can peak.

There can be several reasons why any KW hybrid (not just TS830 model) may require differing levels of CAR pot advancement for adequate ALC indication. Not going to expend the keystrokes. Will just say it all begins at the Balanced Modulator. A good fully functional and properly aligned TS830 should get full scale meter deflection (FSD) with the CAR level pot advanced to no more than #3 to #4 position with exception of 10 meters which may require #5 to #6 position. If you cant get yours to do that nothing to worry about as long as you can get a discernable peak you have adequate RF voltage swing at the control grids. I prefer they leave the bench in the former condition.

Terry K9TW

50561. Re: [TS-520_820_530_830] Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-20 15:21:54 UTC
From: Mike W5RKL
Topic: 50542 Message: 50561

That's a good way for members to learn by actually performing the measurements Terry mentioned.

It's the same method I used in my Ohms Law training videos. I perform the calculation using the correct Ohms Law formula first, showing the results (answer to the problem), then tell the viewer to take out his/her calculator and perform the calculations themselves, using different values so he/she sees what happens to the circuit's voltage and current levels when a component value changes. You won't see the actual results if you don't spend the additional time performing the actual measurements. In many cases, not all, the member actually learns by "Seeing is believing"!!! Oh, one more thing. While these simple Ohms Law measurements may appear silly to some, remember one thing!! When you actually take the time to perform the measurements using your DMM, you are actually learning how to perform basic troubleshooting steps using a piece of test equipment, so you get 2 for the price of 1!!!

We ALL went through the same basic learning steps when we started out. For those who are just starting out, trying to learn, you are going through the same learning process we went through!!!

Sorry Terry, didn't mean to jump in and change your response. I'll back out and let the thread continue.

73
Mike W5RKL
www.w5rkl.com

On 12/20/2014 5:24 AM, wagstw46@... [TS-520_820_530_830] wrote:
>
> I dont expect you to take me at my word or anyone elses word on this
> or any other technical subject on any forum. What I am suggesting is
> that you think and validate what you read, hear and see. This one is
> very easy to validate. Place you DMM from VR-2 to FG on the audio
> board and measure the IR drop across the series combo of R101/R102
> while you use varying amounts of Car Level to place the ALC indication
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> they simple state to peak the ALC indication and if no indication
> simply increase the CAR level until you get an indication that you can
> peak.
>

This email has been checked for viruses by Avast antivirus software.
http://www.avast.com

50562. TS530 antenna relay replacement (using NTE parts) effort

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-20 16:39:12 UTC
From: Jan Servaites
Topic: 50562 Message: 50562

I have successfully found the right parts, after a painstakingly long research effort, to replace the soldered in antenna relay in the TS530. Mine was bad and now my 530 is working great.
I used parts from NTE including the relay and socket. Its a higher amperage relay contacts too. And my relay repair is a "bolt-in" installation, without any sheet metal trimming but does require moving some parts around, but it looks factory good. Soldering the wires to the new relay socket is easier too, I think.
I'll be on the Kenwood net today with the newly repaired 530. I made some DX contacts last night on 40M with the 530, its working really well now.
Jan N8CBX

50563. Re: [TS-520_820_530_830] TS530 antenna relay replacement (using NTE parts) effort

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-20 19:30:35 UTC
From: Joseph Stiles
Topic: 50562 Message: 50563

Jan,
That's excellent!
If you can, will you gather the parts numbers...and get together a few pictures and up load to the groups files sections?
73 Joe
WB7UQUGroup Co-owner

On Saturday, December 20, 2014 8:39 AM, "Jan Servaites jservaites@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

I havesuccessfully found the right parts, after a painstakingly long researcheffort, to replace the soldered in antenna relay in the TS530. Mine wasbad and now my 530 is working great.
I used parts from NTE including the relay and socket. Its a higheramperage relay contacts too. And my relay repair is a "bolt-in"installation, without any sheet metal trimming but does require movingsome parts around, but it looks factory good. Soldering the wires tothe new relay socket is easier too, I think.
I'll be on the Kenwood net today with the newly repaired 530. I madesome DX contacts last night on 40M with the 530, its working reallywell now.
Jan N8CBX

50564. Re: [TS-520_820_530_830] Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-20 19:46:38 UTC
From: wagstw46@...
Topic: 50542 Message: 50564

Mike no problem. You are of course spot on. You and I have talked basic electronics applied to RF communications and how to acquire the needed foundation many times. Of course it is not easy to acquire basic RF communications fundamentals and people learn differently today. In our day common to learn knowledge items by reading and learn skill items by doing and practice.

You and I read and took courses and did the calcs and did the related bread boarding and got a sound foundation in basic electronics and as you say the bread boarding and testing and measuring part proved to us that the theory works and helped us learn how to use test gear.

I think today to tell new folks they need to start reading the ARRL handbook, John Fryes Basic Radio Course, Elements of Radio by Marcus, Termans classic text etc just isnt going to happen in about 99% of the cases. Simply takes too long when you are use to instant answers on Google. I still tell them to obtain these and similar texts and build a good reference library. I would be lost without mine.

So in my case coming up under the old licensing structure, having a passion for learning and understanding along with a little aptitude helped me. In addition to that foundation the way I have learned how the KW hybrids work was by looking at the Block Diagram and reading the Circuit Descriptions and studying the Schematics. This only takes you so far as not always a lot of meat on the bones with the circuit descriptions.

For me where I really gain knowledge is when I encounter an operational problem. I study the schematic and try to understand the design. Coupled with that is taking a lot of readings both DC and Signal on a fully functional radio and then marking up the schematic and/or keeping good note books. Of course I am into over approx 260 units at this time so I can see test points in my sleep on most of the rigs and have quite a bit of info committed to memory, but still rely heavily on my mark ups and notes.

I dont claim to understand every circuit and every transistor amp or oscillator configuration, but I have a pretty detailed understanding of how AGC and ALC works.

Mike you can jump in at any time especially when it comes to doing a QC on my responses. I often do real quick back of envelope calcs and sometimes slip a decimal or two! You and I are getting to be dinosaurs and we really need to get some of the younger folks coming so they can hold up the tent poles when we are not around. I have seen a couple of fellows on here grow quite a bit in last couple of years. They shall remain nameless so they dont get a swelled head!

Terry K9TW

50565. Re: [TS-520_820_530_830] TS530 antenna relay replacement (using NTE parts) effort

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-20 20:14:57 UTC
From: Jan Servaites
Topic: 50562 Message: 50565

Joe,
Yes I anticipated writing it up in an article and have a few pictures of the installation.
Now, starting on the 830 and hope to get it done next week. Then the TS-900 and then and then.....
Jan N8CBX

Joseph Stiles stilesjoseph@... [TS-520_820_530_830] wrote:

>
> Jan,
>
> That's excellent!
>
> If you can, will you gather the parts numbers...and get together a few
> pictures and up load to the groups files sections?
>
> 73 Joe
> WB7UQU
> Group Co-owner
>
>
>

50566. Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-20 21:33:42 UTC
From: rrmvargo@...
Topic: 50542 Message: 50566

<Lastly dont you think if it was important from standpoint of exceeding the 6146 control grid dissipation or any other limitation that KW engineers would have been smart enough to list the precaution in one of the earlier model operating instruction manuals? No from day one they simple state to peak the ALC indication and if no indication simply increase the CAR level until you get an indication that you can peak. - Terry>

This is the 4th 830S I have worked on. I have not worked on any of the prior models. I have not studied the prior models. I've never worked on any Hybrids before except for another 830 before I became a Ham a few years ago.. So I wouldn't assume they are the same. Assumption is one of the worst things I do. Almost always gets me in trouble.

But I am past that & understand the posts, yet remain at the elementary level for the radio. Thank you. Now to further stick my neck out....

I went back thru my unit checking for reasons it is low on Ip and output. After going back thru things, some of the ones you just mention, it is now putting out 100W+ into a verified dummy load. But the Ip is running way low. I am getting 100W with current about 50% of what I'd expect. Which then makes me suspect the 60mA of bias. So I pulled the PA board to check R10 & R6. R6 is 2.7k, but R10 is 9.8k & marked as so, and looks original as does the solder job. The schematic I have shows R10 as 4.7k. Comments? The SN of this unit is 1030253.

50567. RE: [TS-520_820_530_830] TS530 antenna relay replacement (using NTE parts) effort

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-20 22:06:22 UTC
From: fpath fpath
Topic: 50562 Message: 50567

Jan,

Great work, will be interested in seeing how you have achieved this, as I have seen several with very ordinary retro fitted relays. My original 1984, 530s has a plug in antenna relay that was retro fitted by the local Kenwood agent when mine died, now is the same as the 830s. I have a fully restored re-built fully filtered 1987, 530s, so will be interested in seeing what you have done, why re-invent the wheel when someone else has spent the time. Whilst people say this antenna relay isnt available, I know of a place in the States that still has original NOS, but not at $US45.00 each plus $US47.00 p\h.

73's

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: TS-520_820_530_830@yahoogroups.com
Date: Sat, 20 Dec 2014 15:14:57 -0500
Subject: Re: [TS-520_820_530_830] TS530 antenna relay replacement (using NTE parts) effort

Joe,
Yes I anticipated writing it up in an article and have a few pictures of the installation. Now, starting on the 830 and hope to get it done next week. Then the TS-900 and then and then.....
Jan N8CBX

Joseph Stiles stilesjoseph@... [TS-520_820_530_830] wrote:

Jan,

That's excellent!

If you can, will you gather the parts numbers...and get together a few pictures and up load to the groups files sections?

73 Joe

WB7UQU
Group Co-owner

50568. Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-20 22:10:42 UTC
From: wagstw46@...
Topic: 50542 Message: 50568

R10 was a Fix by KW engineers to address the possible negative effect of blown cathode resistors ie blown panel meters due to the open cathode rising toward 6146 screen grid voltage any time you have an arc over and the cathode resistors blow open. In a matter of seconds the open cathode rises to well over 100 vdc. Measure it next time you blow you cathode resistors just dont place the meter in the IP position while you have rig energized with cathode resistors removed. Of course if it is a 530/830 will have to lift one leg of R10. None of the other KW hybrids have an R10 resistor.

The meter may have survived the initial arc over and very high IR drop across the cathode resistors (will most certainly slam hard against the peg during the event). What most of us would then do is try to load the rig again as not sure what just happened. When we do that and place the meter in the Ip position it now sees that 100 plus volts for a brief time until the 800 ohms of the meter movement can pull it down. It wont like that very much. So KW added R10 resistor to the 530/830 models and it is in parallel with the cathode resistors and it doesnt blow when tube arcs over and it prevents the cathode from being open circuited during arc over event.

So now you have R10 in parallel with the four 20 ohm resistors. The higher the value of R10 the less effect it has on the parallel combination and the accuracy of the plate current reading is minimally effected (about a needle width). You can prove this by lifting end of R10 and loading to say 100ma and then tap R10 on and off the solder pad and watch the needle. Of course can calculate it by using rules for parallel resistors but wont do that here.

Depending on what model and series production run rig you have you will most commonly find a 4.7k ohm or a 6.8k ohm resistor. Either one will work. Later runs used the 6.8k ohm.

I have a short write up on my website under the FAQ describing why KW added R10. R6 2.7k is the series meter multiplier. It takes the 500ua meter movement (800 ohms int R) and makes a voltmeter out of it. Instead of actually measuring current by placing panel meter in series with the cathode KW employs common voltmeter method of displaying current by actually measuring the IR drop across the 5 ohm meter shunt.

Terry K9TW

50569. Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-20 22:19:13 UTC
From: rrmvargo@...
Topic: 50542 Message: 50569

Sorry - for got to end with - Bob W8RMV

50570. Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-20 22:28:36 UTC
From: wagstw46@...
Topic: 50542 Message: 50570

I forgot to mention your thought process is good to question the IP metering circuit.

If you have accurate external wattmeter and getting 100 watts output into a 50 ohm resistive dummy load then you cannot be loaded to 100ma.

So logical place to look would be at cathode resistors. However I find that the original carbon resistors most commonly drift high in value which should give you a false high Ip reading or a conservative failure.

If you are uncertain about accuracy of your wattmeter and you have O-scope or RF millivolt meter or RF probe capable of measuring approx 71 rf volts you can place a coaxial tee on your SO-239 and measure the RF voltage to chassis ground at the open ended Tee. If you really have 100 watts out then you should read close to 71 rf volts. Need a 3 diode RF probe if dont have other test gear.

The only reason I mentioned about concern over Control Grid dissipation is that this is the most common misconception about loading a KW hybrid. I read this on most of the other forums from old timers who think ALC is displaying ma grid current and back in their day and mine the first words in the loading instructions in the manual was Caution Dont Exceed 3ma or 4ma or 8ma as we had our Heath 6146 transmitter meter in the Grid Current position to peak the Drive. Of course this admonishment was spot on correct and necessary with a Class C CW transmitter that we were all loading. I assumed you were in that camp based on your call sign and talking about keeping the ALC indication within the black printed range. I should have asked why you think you need to do that or why those that you cite think they need to do that. The very worse video I ever saw on You Tube an Extra Class holder discussed at length the importance of setting the ALC there and when all done loading must go back and readjust if it had changed and even used the Drive control as a level control which of course just detuned his receiver!

Terry K9TW

50571. Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-21 00:55:29 UTC
From: rrmvargo@...
Topic: 50542 Message: 50571

I checked the cathode resistor resistance & it is 4.8R. I then pulled one end of each & was surprised to find each was just under 20R. I feared that one or more had uncharacteristically, gone low. Whereas R7&8 were up to 135R. They were the 30+% I have expected on older stuff. I replaced those.

I put it all back together & took it upstairs to check it on my Palstar AT2KD where it again tested over 100W into a 1.5KW DL. HV reads ~840VDC & Ip is at 95mA, that is not 100+ W. So I will continue to puzzle on this. The implication is the 60mA bias is actually 120mA, but somehow don't believe that. I need to study the schematic more. I know it is not a meter issue as the meter can swing past full scale with ease, given that excessive ALC! ;-) (pls notice the wink)

The suffix of my call sign are my initials, nothing more. I am just someone early in the learning curve and some one who likes Kenwood Hybrids. They are a lot of fun compared to my contemporary radios. I'll have to admit that the Yaesu FT902DM has caught my eye also. Both nice looking radios. And unless you are willing to give me a Hybrid Vulcan mind transfer, I will never achieve your level of understanding or some others here. Even if I was smart enough (doubtful), there aren't enough years left in life to do it. That is why this group makes the life of all Hybrid owners a lot better.

After I get the meter/Ip issue fixed, I'll be back for some suggestions on VFO TC1/L3 tracking adjustment for this unit.

Thanx for the help. - Bob W8RMV

50572. Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-21 02:47:52 UTC
From: wagstw46@...
Topic: 50542 Message: 50572

Bob

I assume you have measured the operating and cutoff bias voltage at the 6146 tube socket pins on the Final board? I would also measure the Screen grid voltage key up and key down there as well. The voltages will be close to what you see on the schematic.

Terry K9TW

50573. Re: [TS-520_820_530_830] Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-21 03:40:28 UTC
From: W5RKL
Topic: 50542 Message: 50573

Bob,

If you doubt the Ip meter indications, which is appears you do and I don't blame you because 95ma is not the cathode current at 100 watts output, you can simply measure the final tube cathode voltage. If the cathode resistors are within tolerance, 20 ohm each resistor, then you should measure approximately +.3VDC cathode voltage with 60ma flowing in the final tubes in either USB or LSB with MIC gain set fully CCW with transmitter keyed.

E = I x R

or

/*.06 x 5 = .3*/

Now, measure the cathode voltage with 100 watts indicated on the watt meter then use Ohms Law formula

I = E / R

to calculate the approximate final amplifier cathode current. You said the cathode resistances measured 4.8 Ohms so use that as the value for "R" and the actual DC cathode voltage you measured as "E" and you will find the cathode current "I". Then compare your math to the IP meter at 100 watts output and I suspect you're going to see a significant difference in the IP meter display verses the actual voltage and resistance values used to calculate the actual cathode current.

73
Mike W5RKL
www.w5rkl.com

On 12/20/2014 6:55 PM, rrmvargo@... [TS-520_820_530_830] wrote:
>
> I checked the cathode resistor resistance & it is 4.8R. I then pulled
> one end of each & was surprised to find each was just under 20R. I
> feared that one or more had uncharacteristically, gone low. Whereas
> R7&8 were up to 135R. They were the 30+% I have expected on older
> stuff. I replaced those.
>
> I put it all back together & took it upstairs to check it on my
> Palstar AT2KD where it again tested over 100W into a 1.5KW DL. HV
> reads ~840VDC & Ip is at 95mA, that is not 100+ W. So I will
> continue to puzzle on this. The implication is the 60mA bias is
> actually 120mA, but somehow don't believe that. I need to study the
> schematic more. I know it is not a meter issue as the meter can swing

> past full scale with ease, given that excessive ALC! ;-) (pls notice
> the wink)
>
> The suffix of my call sign are my initials, nothing more. I am just
> someone early in the learning curve and some one who likes Kenwood
> Hybrids. They are a lot of fun compared to my contemporary radios.
> I'll have to admit that the Yaesu FT902DM has caught my eye also.
> Both nice looking radios. And unless you are willing to give me a
> Hybrid Vulcan mind transfer, I will never achieve your level of
> understanding or some others here. Even if I was smart enough
> (doubtful), there aren't enough years left in life to do it. That is
> why this group makes the life of all Hybrid owners a lot better.
>
> After I get the meter/Ip issue fixed, I'll be back for some
> suggestions on VFO TC1/L3 tracking adjustment for this unit.
>
> Thanx for the help. - Bob W8RMV
>
>

This email has been checked for viruses by Avast antivirus software.
http://www.avast.com

50574. Conductive grease

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-21 14:13:57 UTC
From: rrmvargo@...
Topic: 50574 Message: 50574

I found this grease on Amazon.
MG Chemicals Carbon Conductive Grease : 846-80G http://www.amazon.com/MG-Chemicals-Carbon-Conductive-Grease/dp/B000KQ1CWO/ref=sr_1_2?ie=UTF8&qid=1419137924&sr=8-2&keywords=MG+Chemicals+Carbon+Conductive+Grease+%3A+846-80

http://www.amazon.com/MG-Chemicals-Carbon-Conductive-Grease/dp/B000KQ1CWO/ref=sr_1_2?ie=UTF8&qid=1419137924&sr=8-2&keywords=MG+Chemicals+Carbon+Conductive+Grease+%3A+846-80

MG Chemicals Carbon Conductive Grease : 846-80G http://www.amazon.com/MG-Chemicals-Carbon-Conductive-Grease/dp/B000KQ1CWO/ref=sr_1_2?ie=UTF8&qid=1419137924&sr=8-2&keywords=MG+Chemicals+Carbon+Conductive+Grease+%3A+846-80 Amazon.com: MG Chemicals Carbon Conductive Grease : 846-80G: Everything Else

View on www.amazon.com http://www.amazon.com/MG-Chemicals-Carbon-Conductive-Grease/dp/B000KQ1CWO/ref=sr_1_2?ie=UTF8&qid=1419137924&sr=8-2&keywords=MG+Chemicals+Carbon+Conductive+Grease+%3A+846-80
Preview by Yahoo

It is reasonably priced & works very well where a conductive lubricant is required. It has a conductivity spec. It was the first grease that I could actually measure its conductivity with a DVM.

I even used it on the problematic 12 pin connector that is found at the back of the counter board on a TS830S. But please note that a very little amount goes a very long way. A tube will last a lifetime for most. It is also works well on the roller follower on the roller inductor of a tuner. Also know that if you smear it, it will act like a wire or a resistor to the surrounding area.

For the connector mentioned above, I put a small amount of grease into a ink refill syringe & added a few drops of 99% alcohol to thin it. I then inserted the needle into the female end of the connector & squirted just the tiniest amount into each opening. The needle was the perfect size. That connector and the counter has worked perfectly ever since. This was after cleaning the contacts, re-soldering the pins, etc. to no avail. - Bob W8RMV

50575. Re: [TS-520_820_530_830] Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-21 14:28:00 UTC
From: rrmvargo@...
Topic: 50542 Message: 50575

Mike & Terry,
I will try to make those measurements today or tomorrow. I also plan on checking the Ip wire itself and the switch.

I did transmit for the first on it last nite on SSB 80M and was getting 100W out, but I was told the audio was really bad with excellent signal strength. ALC was acting a bit weird. It was either there or not as I adjusted the mic control. Since the radio got smashed at the mic corner & I replaced the mic connector, I will look there first. The mode switch shaft was also broken. No need to take the discussion there, but just wanted to report. - Bob W8RMV

50576. Re: [TS-520_820_530_830] Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-21 15:08:12 UTC
From: wagstw46@...
Topic: 50542 Message: 50576

Of course you know you can listen to your audio with headphones and the Moni turned on. I would do that into dummy load as you troubleshoot and try different mics and settings etc. A very nice feature to have. That way dont have to put signals on the air until you think close to ready.

Terry K9TW

50577. Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-21 18:23:06 UTC
From: rrmvargo@...
Topic: 50542 Message: 50577

First I apologize to the group for the extent of this thread & lack of due diligence on my part. I have an aversion (I've grandkids that seem to like me for unknown reasons) of checking the high voltage areas, even tho I know the safety precautions.

I measured the screen pin 3 at 124VDC both at the final board & at the SG board itself. That, of course, is way low to the 264/222VDC spec. Pin 5 was at -98VDC. So I need to investigate that SG board more. Plate is ~920VDC. I get 0.31VDC at the Cathode at 60mA bias or right on the money. And this is where it gets weird, I get 0.48VDC cathode voltage at 90W on 40M and the Ip meter reads correctly at about 95mA (I=0.48VDC/4.8R). BTW, I am using a Fluke 189 for all my voltage measurements so I trust the readings. I don't have Hi RF voltage measurement capability.

900VDC x 0.1A x 60% efficiency should be about 54W. I am messing up somewhere.

So maybe I need to take this off group and do a better job of analyzing & measuring before coming back. I'll fix the SG voltage & report back. Thanx. - Bob W8RMV

50578. Hum in VOX

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-21 18:50:45 UTC
From: junkmailsux@...
Topic: 50578 Message: 50578

I get great reports on my TS-520 except when I try to use VOX. When I use VOX there's a buzz or hum in the audio. I don't have an issue using the PTT on phone but I was thinking about trying some digital modes. I can't afford a RIGblaster so I need to build a simple interface.
Feel free to assume that I have very little electronics experience.

Thanks!!
Chad
KK6DPE

50579. Kenwood Hybrid Net Update (December 21, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-21 19:40:49 UTC
From: Mark Gilger
Topic: 50579 Message: 50579

et Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm
The net started it's existence on November 1st,
2012. The yearly check-in totals are posted at
the bottom of this message. It showed we had a
10% increase in our Saturday check-ins and an 8%
on Sunday as compared to the 2012 check-ins.

The Saturday's net was run by me, WB0IQK. There
were 24 stations checking in under good band conditions.

We had the following number of radios checking in.

5 running TS-520(x)
2 running TS-530(x)
5 running TS-820(x)
5 running TS-830S
0 running TS-511
0 running TS-511
1 running 599 twins

I was running my TS-830s & Drake L4B amplifier.

The Sunday net was run by me, WB0IQK. There were
31 stations checking in under fair band
conditions. He had the following number of radios checking in.

8 running TS-520(x)
5 running TS-530(x)
2 running TS-820(x)
6 running TS-830S
0 running TS-510
0 running TS-511
0 running 599 twins

The rest were running non Kenwood hybrid equipment.

He was running my TS-940S + Drake L4B amplifier.

We have been having several people checking in
regularly with their TS-430, TS-440, and
TS-940□s, which of course is not a hybrid,

although over 30+ years old. Everyone is welcome
as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a
net control station, please send me an email.
Currently it's just myself, WB2KNR and WB0SGA. I
would like to get several more. If we do, we can
alternate so everyone might be on a 3-4 week
rotation. It's a lot of fun and a good way to
make sure you station is optimized.

For anyone that has not heard, we have a new web
site that WB4HFN is hosting. He currently has a
very nice site for Drake, Collins and Heathkit
and now Kenwood Hybrids. Good quality manuals
plus sale flyers and brochures will be found
here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 ☐ Oct. 2012 Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins
Nov. 2013 - Oct. 2014 Saturdays total 842 check-ins, Sunday total 744 check-ins

November 2014, Saturday☐s net total 142, Sunday☐s total = 88

December 2014, Saturday☐s net total 65, Sunday☐s total = 68 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

50580. Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-21 19:44:56 UTC
From: wagstw46@...
Topic: 50542 Message: 50580

Didnt this all start with a burned up R11 and I am pretty sure that I gave you the IR drop you should read across it to see if the SG supply was seeing normal load current.

I think I also described the location of the loads and common failure on divider resistors on the RF board. Also suggested that you check the two 22uf caps in the CRC filter on the IF board? I think you said you ESRd them but didnt bridge them. I wouldnt worry about bridging. Big capacitance tolerance.

It sounds like you have a bad C180 or C181?. At least most likely source of fault current.

I think you pulled the IF board and said you saw a shorted lead wire of some kind in this area? I would take a hard look at those filter caps again and probably change all 4 as 30 plus years old and can cause some collateral damage. I have seen very badly burned up IF board at these caps as well as a bad carbon track on the HV rect board right below where R11 mounts.

What I am saying is it doesnt sound like you found the root cause of burned up R11 470 ohm. Anytime you have to replace R11 good idea to measure SG voltage at HV rect board and at the Finals tube socket pins. I also load the radio and measure the IR drop across it to make sure load current is not excessive. I guess I just assumed you had done that.

Terry K9TW

---In TS-520_820_530_830@yahoogroups.com, <rrmvargo@...> wrote :

First I apologize to the group for the extent of this thread & lack of due diligence on my part. I have an aversion (I've grandkids that seem to like me for unknown reasons) of checking the high voltage areas, even tho I know the safety precautions.

I measured the screen pin 3 at 124VDC both at the final board & at the SG board itself. That, of course, is way low to the 264/222VDC spec. Pin 5 was at -98VDC. So I need to investigate that SG board more. Plate is ~920VDC. I get 0.31VDC at the Cathode at 60mA bias or right on the money. And this is where it gets weird, I get 0.48VDC cathode voltage at 90W on 40M and the Ip meter reads correctly at about 95mA (I=0.48VDC/4.8R). BTW, I am using a Fluke 189 for all my voltage measurements so I trust the readings. I don't have Hi RF voltage measurement capability.

900VDC x 0.1A x 60% efficiency should be about 54W. I am messing up somewhere.

So maybe I need to take this off group and do a better job of analyzing & measuring before coming back. I'll fix the SG voltage & report back. Thanx. - Bob W8RMV

50581. Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-21 19:50:07 UTC
From: wagstw46@...
Topic: 50542 Message: 50581

OK -98vdc is cutoff bias in Rx mode need to measure the operating bias in with rig flipped to send. My guess is it will be around -60vdc based on what you describe about your ALC indication in Tune Mode peaking the Drive. If you had -98vdc bias voltage in TX mode would have no ALC indication at any CAR level pot setting.

If still have same low Plate current and low RF output issues after getting the SG voltage to normal then try another set of finals to rule out soft finals. Can just load on 40 meters and not worry about neutralizing for a quick test.

I suspect once you get the SG voltage to around 225vdc or so key down you will have normal plate current and output power. This will probably be a lesson on how SG voltage affects operation of a Tetrode.

Terry K9TW

50582. Re: Missing Wire on a TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-21 22:26:29 UTC
From: roberteleazer@...
Topic: 50447 Message: 50582

Terry:

I have the cover off my working TS-520, sitting just a few feet away from the TS-520 being repaired, so I can use that as a reference source if required. However I note that the pictures I took before I removed the failed rectifier board show that something was attached to the STB post - and I don't know what it would have been if not the yellow wire from the voltage divider. But that may mean nothing, or at least very little, since all of the rectifier board output wires had been clipped and replaced with jumpers by a previous owner.

So I am getting close to firing this rig up again. I'll let y'all know how it works.

Thanks again!

Robert
WB5WSV

50583. Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-21 23:00:28 UTC
From: rrmvargo@...
Topic: 50542 Message: 50583

The wire that shorted to C180 leads directly to 210B on the Rectifier board. So I am pretty certain that was the reason for R11 to fail. All 4 caps on the IF board checked OK but I replaced them anyway. No change. But when I measured pin 5 on final board in transmit, that is way off of your estimate & print spec. It pulls down from -98VDC to -41VDC. I will try another set of tubes in the days to come. - Bob

50584. Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-21 23:36:27 UTC
From: wagstw46@...
Topic: 50542 Message: 50584

OK I guess I forgot you replaced all 4 caps. Then need to look at the HV rectifier board and measure SG voltage at 210A. It should be approx 260vdc. I have never seen either 100 ohm grid stopper go high enough to cause big IR drop. I have seen a open L2 470uhy choke. If open then no SG voltage. Not likely but could have a very high resistance contact on the SG switch. Just cycle it back and forth a few times. Make sure the lead wires to it our soldered well and not broken and just barely touching.

The reason operating bias is at -41vdc is because that is where you have the bias voltage adjust pot on the rear panel set. You have control over where you set the operating bias voltage.

It would be very rare to have an internal short on the 6146 screen grid. You could remove both tubes and make sure that the Anode caps are in the clear and then power the radio. Now you can adjust bias voltage pot for -60vdc at Pin 5 and measure the SG voltage at Pin 3. If voltages are good then shut down and discharge the HV caps and reinstall the tubes and repower and repeat the measurements. If now bad voltages then have a problem with one or both tubes.

Terry K9TW

50585. Re: Missing Wire on a TS-520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-22 00:25:37 UTC
From: wagstw46@...
Topic: 50447 Message: 50585

Well probably best to trace it or ring it out to see if output of the divider does feed the STB post on the audio board.

You can of course measure the voltage on the STB post on the HV rectifier board that has nothing landed on it. It should read approx 100vdc. If it does cant use that to feed the voltage divider terminal strip as would end up supplying only 50vdc to STB on audio board. Could eliminate the divider resistors on the terminal strip and just use it as point to connect lead from STB on HV rectifier and STB on audio board.

Terry K9TW

50586. Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-22 01:30:31 UTC
From: rrmvargo@...
Topic: 50542 Message: 50586

Terry,
I pulled the SG wire from the final board to separate it from the finals, ie- trying to spilt the dictionary, The SG voltage did not change. Given that, I felt the issue is on the rectifier board or maybe said a better way, it is not on the finals board. 210A measures 127VDC at 210A. I sprayed the SG switch days ago thinking it could be that also. No change. I need a few days free of this unit. I'll try the 6146 removal test then.

But I appreciate your help/endurance. If I find the reason for the low SG voltage, I'll be sure to post it here. Thanx - Bob W8RMV

50587. no 9 volt supply

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-22 01:54:45 UTC
From: bozo231@...
Topic: 50587 Message: 50587

i have a 520s with no voltage on the fix-avr board can anyone tell me what supplies this board thanks in advance thanks Ron KK4PWF

50588. No HV read out on meter.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-22 00:45:32 UTC
From: LY5AT
Topic: 50588 Message: 50588

Hello group. I have a TS820S, everything works perfectly fine, but i noticed that i no longer have a read out on the HV .Where and what could have gone wrong? Meter works everywhere else

Thanks.
Linas LY5AT

50589. Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-22 12:55:42 UTC
From: wagstw46@...
Topic: 50542 Message: 50589

Bob:

Turn off the SG switch and read the voltage at Pin 3 at tube socket. Should be approx -110vdc or so.

I dont know how it would be possible for you to have both 210A and -C supplies in parallel? If you had that -C would buck 210A and give you what you are seeing.

This is controlled by small RL-1 relay on the Rect Board. When you close the SG switch it grounds RL-1 relay coil which has 12vdc on at all times and SG-2 switches from 210A to -C. SG-2 becomes SG-1 which becomes PD-2 and feeds the screen grid terminal on the Finals board.

I have never had to replace the small relay and not sure how could get both supply voltage through it at the same time unless a carbon path on the board?

Mike please jump in as I may be missing something obvious here.

Terry K9TW

50590. Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-22 13:20:56 UTC
From: wagstw46@...
Topic: 50542 Message: 50590

Bob

One other question. You are not taking these measurements in TUNE mode are you?

Terry

50591. TS-530SP RF Gain

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-22 07:15:27 UTC
From: tghotdogz@...
Topic: 50591 Message: 50591

Hello to the Group,
Haven't posted in a while, but I have an issue that hopefully one of the experts in the group can assist me with.
I picked up a TS-530SP today and upon getting home gave it a quick check. The radio does receive, although sensitivity may be a bit low, but the radio is not deaf by any means. The S meter only deflects slightly, even on very strong signals. The calibrator gives between an S 2 and an S 4 depending on the band - this with the S meter sensitivity pot on the IF board maxed out. The main problem, (which I suspect is related to the low S meter reading), is the RF Gain control has no effect on either the meter or signal receive. The transmitter section appears to work normally. I downloaded both the operating and service manuals, and will print them out tomorrow.
I've worked on several 830's, and a number of 520's and 820's, but this is my first 530 and I've never run across this exact issue on any other radio. I'm assuming the problem is in the AGC circuit?
Any advice on any known problem spots to check, or other suggestions would be very much appreciated.
Regards
Tom
W7OA
Reno, NV

50592. Re: [TS-520_820_530_830] Conductive grease

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-22 14:17:01 UTC
From: Mike W5RKL
Topic: 50574 Message: 50592

"Craig Laboratories", the maker of DeoXit D5, F5 Fader cleaner and lubricant, as well as other contact cleaner's and lubricants, also sells a conductive grease

/*DeoXit L260Ap

*/This grease comes in various size containers and application methods. I purchased the grease in a 28gm plastic container for $13.69 "Free Shipping" on ebay ad #181243982516. It appears he has raised his price by $2 since I purchased the grease from him. You may find it cheaper from other eBay sellers or at other on-line outlets. It only takes a small amount to complete the job, same as the contact cleaner.

Depending on your usage, the 28gm container could last you a very long time.

73
Mike W5RKL
www.w5rkl.com

On 12/21/2014 8:13 AM, rrmvargo@... [TS-520_820_530_830] wrote:
>
> I found this grease on Amazon.
> MG Chemicals Carbon Conductive Grease : 846-80G
> <http://www.amazon.com/MG-Chemicals-Carbon-Conductive-Grease/dp/B000KQ1CWO/ref=sr_1_2?ie=UTF8&qid=1419137924&sr=8-2&keywords=MG+Chemicals+Carbon+Conductive+Grease+%3A+846-80>
>
>
>
>
> image
> <http://www.amazon.com/MG-Chemicals-Carbon-Conductive-Grease/dp/B000KQ1CWO/ref=sr_1_2?ie=UTF8&qid=1419137924&sr=8-2&keywords=MG+Chemicals+Carbon+Conductive+Grease+%3A+846-80>
>
>
>
> MG Chemicals Carbon Conductive Grease : 846-80G
> <http://www.amazon.com/MG-Chemicals-Carbon-Conductive-Grease/dp/B000KQ1CWO/ref=sr_1_2?ie=UTF8&qid=1419137924&sr=8-2&keywords=MG+Chemicals+Carbon+Conductive+Grease+%3A+846-80>
>
> Amazon.com: MG Chemicals Carbon Conductive Grease : 846-80G:
> Everything Else
>
> View on www.amazon.com
> <http://www.amazon.com/MG-Chemicals-Carbon-Conductive-Grease/dp/B000KQ1CWO/ref=sr_1_2?ie=UTF8&qid=1419137924&sr=8-2&keywords=MG+Chemicals+Carbon+Conductive+Grease+%3A+846-80>
>

>
> Preview by Yahoo
>
>
>
> It is reasonably priced & works very well where a conductive lubricant
> is required. It has a conductivity spec. It was the first grease that
> I could actually measure its conductivity with a DVM.
>
> I even used it on the problematic 12 pin connector that is found at
> the back of the counter board on a TS830S. But please note that a
> very little amount goes a very long way. A tube will last a lifetime
> for most. It is also works well on the roller follower on the roller
> inductor of a tuner. Also know that if you smear it, it will act like
> a wire or a resistor to the surrounding area.
>
> For the connector mentioned above, I put a small amount of grease into
> a ink refill syringe & added a few drops of 99% alcohol to thin it. I
> then inserted the needle into the female end of the connector &
> squirted just the tiniest amount into each opening. The needle was
> the perfect size. That connector and the counter has worked perfectly
> ever since. This was after cleaning the contacts, re-soldering the
> pins, etc. to no avail. - Bob W8RMV
>
>
>

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50593. New file uploaded to TS-520_820_530_830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-22 15:29:59 UTC
From: TS-520_820_530_830@yahoogroups.com
Topic: 557 Message: 50593

Hello,

This email message is a notification to let you know that
a file has been uploaded to the Files area of the TS-520_820_530_830
group.

File : /AUTOTEXT MSGS/Message on approved membership.txt
Uploaded by : w5rkl <w5rkl@...>
Description : Group Policies

You can access this file at the URL:
https://groups.yahoo.com/neo/groups/TS-520_820_530_830/files/AUTOTEXT%20MSGS/Message%20on%20approved%20membership.txt

To learn more about file sharing for your group, please visit:
https://help.yahoo.com/kb/index?page=content&y=PROD_GRPS&locale=en_US&id=SLN15398

Regards,

w5rkl <w5rkl@...>

50594. Re: TS-530SP RF Gain

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-22 15:32:25 UTC
From: wagstw46@...
Topic: 50591 Message: 50594

Have you measured RF-1 and adjusted it as necessary? Also look at RFG on the IF board molex Conn 12.

Terry K9TW

50595. Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-22 16:09:21 UTC
From: rrmvargo@...
Topic: 50542 Message: 50595

Terry,

Measurement at Pin3 on either 6146

T=tune r=rec s=send CW=CW
SG off -
Tr-53
Ts -51
CWr - 114
CWs - 110

SG on-
Tr - 53
Ts - 39
CWr - 126
CWs - 89

I initially sprayed contact cleaner on the SG switch but deoxit also before measurement, as it still seemed a little stiff compared to my other 830s.

That's all until after the holidays. Happy Holidays All - Bob W8RMV

50596. Neet tool for the bench

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-22 16:58:51 UTC
From: Rob Stewart
Topic: 50596 Message: 50596

Not directly related to Kenwood hybrids, but thought this group might enjoy seeing a demo of an interesting wire cutter/stripper tool...
2-in-1 Wire Cutter/Stripper

```
|   |
|   | |   |   |   |   |   |
| 2-in-1 Wire Cutter/Stripper |
| |
| View on www.youtube.com | Preview by Yahoo |
| |
|   |
```

John
wa3jrs

50597. Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-22 17:37:55 UTC
From: wagstw46@...
Topic: 50542 Message: 50597

Bob

Are you saying you are measuring negative voltage at the Screen grid with SG switch ON? I thought you reported positive 126vdc or about 1/2 normal SG voltage?

If negative then check RL-1. Watch it as you flip the Screen Grid switch on and off. You should be able to see and hear the armature movement. I dont know how the NO (normally open contacts) could have gotten welded shut?

OK we can pick back up after X-mas

Terry K9TW

50598. Re: [TS-520_820_530_830] Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-22 18:06:11 UTC
From: Jan Servaites
Topic: 50542 Message: 50598

Some of those PA wires are solid core 22 or 24ga wire and I have some
that fractured and broke. I have replaced the yellow, screen voltage
supply wires on all my rigs with Mil spec, teflon/silver wire.
Check all of those PA wires at the soldered ends, thats were I found the
breaks.
Jan N8CBX

wagstw46@... [TS-520_820_530_830] wrote:

>
>
> Bob
>
>
> Are you saying you are measuring negative voltage at the Screen grid
> with SG switch ON? I thought you reported positive 126vdc or about
> 1/2 normal SG voltage?
>
> If negative then check RL-1. Watch it as you flip the Screen Grid
> switch on and off. You should be able to see and hear the armature
> movement. I dont know how the NO (normally open contacts) could have
> gotten welded shut?
>
> OK we can pick back up after X-mas
>
> Terry K9TW
>

50599. Re: [TS-520_820_530_830] Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-22 18:11:12 UTC
From: Mike W5RKL
Topic: 50542 Message: 50599

Bob and Terry,

The only way pin 3 of the 6146 tube sockets will have negative voltage with the SG switch set to ON or OFF is if the SG switch is not working properly. There is a error on the 830 schematic that shows the SG switch in the "OFF" position yet the Rectifier Unit's relay RL1 is NOT energized!!

If you study the 830's schematic's Rectifier Unit's "SGS" (Screen Grid Switch) terminal as shown on the right side of the Rectifier Unit schematic, you will see it connects directly to the SG switch's SPDT terminals. Follow the wiring up to the SG switch and you will notice the switch is shown in the "OFF" position yet the Rectifier Unit's RL1 relay is NOT energized.

The Rectifier Unit's RL1 relay voltage is routed through the MODE switch wafer S18-2. When the SG switch is set to OFF, relay RL1 on the Rectifier Unit is energized resulting in the Rectifier Unit's -C supply, approximately -101VDC or so, to be applied through the Mode switch (any position) and through the path to the final unit's "SG" terminal, hence the 6146 final tube screen voltage is "negative" not "positive".

The SG switch position, based on the Rectifier Unit's relay state, should be shown in the "ON" position.

73
Mike W5RKL
www.w5rkl.comn

On 12/22/2014 11:37 AM, wagstw46@... [TS-520_820_530_830] wrote:
>
> Bob
>
>
> Are you saying you are measuring negative voltage at the Screen grid
> with SG switch ON? I thought you reported positive 126vdc or about
> 1/2 normal SG voltage?
>
> If negative then check RL-1. Watch it as you flip the Screen Grid
> switch on and off. You should be able to see and hear the armature
> movement. I dont know how the NO (normally open contacts) could have
> gotten welded shut?
>
> OK we can pick back up after X-mas
>
> Terry K9TW
>

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50600. Re: [TS-520_820_530_830] Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-22 18:21:18 UTC
From: Mike W5RKL
Topic: 50542 Message: 50600

I should have added the following:

Naturally if the SG switch is working properly and the switch is set to OFF the final tube's screen voltage will be negative and positive with the SG switch set to ON, regardless of the MODE switch position.

73
Mike W5RKL
www.w5rkl.com

On 12/22/2014 12:11 PM, Mike W5RKL w5rkl@... [TS-520_820_530_830] wrote:
>
> Bob and Terry,
>
> The only way pin 3 of the 6146 tube sockets will have negative voltage
> with the SG switch set to ON or OFF is if the SG switch is not working
> properly. There is a error on the 830 schematic that shows the SG
> switch in the "OFF" position yet the Rectifier Unit's relay RL1 is NOT
> energized!!
>
> If you study the 830's schematic's Rectifier Unit's "SGS" (Screen Grid
> Switch) terminal as shown on the right side of the Rectifier Unit
> schematic, you will see it connects directly to the SG switch's SPDT
> terminals. Follow the wiring up to the SG switch and you will notice
> the switch is shown in the "OFF" position yet the Rectifier Unit's RL1
> relay is NOT energized.
>
> The Rectifier Unit's RL1 relay voltage is routed through the MODE
> switch wafer S18-2. When the SG switch is set to OFF, relay RL1 on the
> Rectifier Unit is energized resulting in the Rectifier Unit's -C
> supply, approximately -101VDC or so, to be applied through the Mode
> switch (any position) and through the path to the final unit's "SG"
> terminal, hence the 6146 final tube screen voltage is "negative" not
> "positive".
>
> The SG switch position, based on the Rectifier Unit's relay state,
> should be shown in the "ON" position.
>
> 73
> Mike W5RKL
> www.w5rkl.comn
>
>
>
>

> On 12/22/2014 11:37 AM, wagstw46@... [TS-520_820_530_830] wrote:
>> Â
>>
>> BobÂ
>>
>>
>> Are you saying you are measuring negative voltage at the Screen grid
>> with SG switch ON? Â I thought you reported positive 126vdc or about
>> 1/2 normal SG voltage?
>>
>> If negative then check RL-1. Watch it as you flip the Screen Grid
>> switch on and off. You should be able to see and hear the armature
>> movement. I dont know how the NO (normally open contacts) could have
>> gotten welded shut?Â
>>
>> OK we can pick back up after X-mas
>>
>> Terry K9TWÂ
>
>
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50601. Re: [TS-520_820_530_830] no 9 volt supply

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-22 20:23:34 UTC
From: Lou Blasco
Topic: 50587 Message: 50601

Hi Ron,

You didn't say if the -6V supply was also missing. If it and the 9V are both missing then I would chase the 14V line. If you have -6V then your problem lies somewhere on the AVR board. If you haven't already done so please download a large format circuit to help with your troubleshooting.

http://www.n6wk.com/kenwood/TS-520S_LARGE-Schematic_Hi-Res.pdf

Regards

Lou
VK3ALB

At 12:54 22/12/2014, you wrote:
>
>
>i have a 520s with no voltage on the fix-avr board can anyone tell
>me what supplies this board thanks in advance
>[]
> thanks Ron KK4PWF

50602. Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-22 20:40:16 UTC
From: rrmvargo@...
Topic: 50542 Message: 50602

I get an email everytime someone responds & I feel bad waiting till later to respond. So I run back to the torture chamber & make a few measurements & run back upstairs to type.

In worrying about how Yahoo was going to reformat my post, I screwed up on it. Here is how it should look:

T=tune r=rec s=send CW=CW
SG off -
Tr-53
Ts -51
CWr - 114
CWs - 110

SG on-
Tr+53
Ts + 39
CWr + 126
CWs + 89

I also suspected the SG wire, but found the same voltages on the Rec board. FWEIW, I checked all the diodes on the Rec board & they are good. Resistor measurements compared to my working unit were also close except for one resistor that is a 12k vs 15k in the later 2M SN. Relay seems to work as I see it actuate & I popped off the cover to see how it affected the R15 & 16 and it does.

I also ran the no 6146 test (nice trick) and no joy. Screen voltage is still low with no tubes.

I have started to measure all the wire wrap pins to compare with my working 830 and think I have found some anomalies that I will report on later maybe next week.

So I really must go & thanks for all the tips & education..... Bob W8RMV

50603. Re: [TS-520_820_530_830] No HV read out on meter.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-22 20:50:22 UTC
From: Lou Blasco
Topic: 50588 Message: 50603

Hi Linas,

If you haven't already done so please download a high resolution circuit from here.
http://www.n6wk.com/kenwood/TS-820S-%20High%20Res%20Schematic.pdf

S1 is the meter switch and according to the circuit is supplied from the HV unit. You will find S1 and the meter in the top right hand corner of the circuit just below the coil pack unit. You should firstly check the voltage at HV & 800 on this board. Of course it should be clear that there is high voltages on this board so work carefully and make sure your meter is capable of measuring up to 1000V. You migh also need to check contacts RL-3 and the wiring to the final unit involving MR1 & MR2 on the final unit.

Regards

Lou
VK3ALB

At 11:45 22/12/2014, you wrote:
>
>
>Hello group. I have a TS820S, everything works perfectly fine, but i
>noticed that i no longer have a read out on the HV .Where and what
>could have gone wrong? Meter works everywhere else
>
>Thanks.
>Linas LY5AT
>

50604. Re: [TS-520_820_530_830] Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-22 21:47:23 UTC
From: wagstw46@...
Topic: 50542 Message: 50604

Mike: Yes fully aware of how it works and the error on the schematic.

What I am trying to understand is how he is measuring any negative voltage at the Screen grids with the SG switch OFF. I thought he reported about half positive voltage and now appears to report always a negative voltage regardless of switch position unless it was a typo.

Switch wired wrong.
Switch broken internally and stuck in OFF and not actually toggling internally
Bridged /Welded RL-1 contacts

????

Terry K9TW

50605. Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-22 21:55:18 UTC
From: wagstw46@...
Topic: 50542 Message: 50605

OK this is better! Not good but believable!

One other thing to check is the AC voltage of the secondary winding that feeds your 1/2 wave rectifier. Not likely that it is bad but easy to measure at AC210.

How did you install the new R11? Did you fold board over and unsolder and resolder or did you tack it on the stub leads on top side of board?

Its not likely to have a high resistance wire wrap at 210A. What do you get if you measure off R11 lead?

Lets get it correct at the Power supply and then see if correct at the tubes.

Terry K9TW

50606. Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-22 22:18:09 UTC
From: rrmvargo@...
Topic: 50542 Message: 50606

Smoking gun?

One thing you guys forgot to ask me (see it's all your fault ;-)) is: what is the AC voltage at SG? I finally remembered to always check for AC on a DC line when trouble shooting. Well there is a ton.
Tr 39VAC
Ts 41VAC
CWr 87VAC
CWs 102VAC

That is why I can't get to the right screen voltage. But I still haven't figured out why I have AC there.

So it seems I have half a bridge out but where does that thing go. My eyes are going cross eyed on the schematic. PD2 is derived from SG1 which goes over to the switch then back over over to .... C1/AC100?? That makes no sense. It looks like only the caps are on the IF board. I lose the path. I know, I need Ken's Blow up. Since the diodes check OK, maybe I have a bad ceramic?

- Bob W8RMV

50607. Re: [TS-520_820_530_830] Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-22 23:08:22 UTC
From: Mike W5RKL
Topic: 50542 Message: 50607

Bob,

PD2 and SG1's path goes back to the MODE switch SG1 (wiper). Depending on the position of the MODE switch determines what source the voltage comes from the Rectifier Unit.

In TUNE, the MODE switch TUNE terminal routes back to the Rectifier Unit's "TUNE" terminal and the R15 and R16 resistive voltage divider that reduces the screen voltage applied to the final unit's SG terminal by 50%.

The SSB and CW MODE switch terminals go back to the Rectifier Unit's "SG2" terminal on the Rectifier Unit where normal screen voltage is applied to the final unit SG terminal.

The Rectifier Unit's SG2 terminal voltage comes from the Rectifier Unit's "210B" terminal through the Rectifier Unit's RL1 relay!!!

The 210 supply is a simple half wave rectifier consisting of diode rectifier D6 and a simple PI input capacitive filter consisting of electrolytic capacitors C180 and C181, both 22ufd 350VDC mounted on the "IF" Unit and resistor R11 on the Rectifier Unit.

How do you know the voltage on the final unit's SG terminal is AC? Did you look at the SG terminal with a scope? If there is, in fact, AC on the final unit's SG terminal, did you check to ensure the 2 wires that leave the Rectifier Unit's 210A and 210B terminals to the IF Unit's C180 and C181 are not disconnected at the Rectifier Unit??? That's the only way you could have pulsating DC on the final unit's SG terminal is if those 2 wires are disconnected from the Rectifier Unit. If those wires are in fact disconnected then the 210 supply's PI filter is NOT in use, resulting in pulsating DC on the final unit's SG terminal and the driver tube screen through the RF Unit's plug 9 pin 2.

73
Mike W5RKL
www.w5rkl.com

On 12/22/2014 4:18 PM, rrmvargo@... [TS-520_820_530_830] wrote:
>
> Smoking gun?
>
> One thing you guys forgot to ask me (see it's all your fault ;-)) is:
> what is the AC voltage at SG? I finally remembered to always check
> for AC on a DC line when trouble shooting. Well there is a ton.
> Tr 39VAC
> Ts 41VAC

> CWr 87VAC
> CWs 102VAC
>
> That is why I can't get to the right screen voltage. But I still
> haven't figured out why I have AC there.
>
> So it seems I have half a bridge out but where does that thing go. My
> eyes are going cross eyed on the schematic. PD2 is derived from SG1
> which goes over to the switch then back over over to .... C1/AC100??
> That makes no sense. It looks like only the caps are on the IF board.
> I lose the path. I know, I need Ken's Blow up. Since the diodes
> check OK, maybe I have a bad ceramic?
>
> - Bob W8RMV
>
>

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50608. TS-520S - Sell, Salvage, or Fix

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-22 21:13:53 UTC
From: 003402
Topic: 50608 Message: 50608

I am a relatively new ham (Tech in January, General in October) and decided to get a 520S as a starter rig after doing some research on good options.

I found a local 520S that was in good working order. After getting a walk through on the operation, and the previous owner making a final contact with it, I transported it home. After a quick setup and check out, I found that it wasn’t transmitting. It seems to receive fine on a few bands (I am still getting the hang of the antenna tuner and such). Have listened in on many conversations on 20m with no issue.

I checked out some of the obvious things that might have happened during transport (e.g., SG switch is on, Ext VFO jumper in place, MC-50 cables in the right order, all seemed ok). I peeked under the hood and no loose wires or anything obvious.

I took it to a local shop to see if they could fix the transmitting problem (They do not specialize in Kenwood Hybrids). They were able to get it fixed (to a degree, it transmits on full power on SSB and CW all the time), but the receive failed. They were troubleshooting the transmitter issue and the tech said that he heard a pop and the unit no longer received. He called after that to see where to go. He indicated that it could get costly to continue to fix/troubleshoot. I had him stop and would retrieve the unit. I really can’t afford to have a tech continue to spend time/$$ chasing the issue on a rig of this age.

So, the question is: Do I sell it to someone that can do the work themselves (I don’t think I have the skills to do it), part it out, or try to troubleshoot it/repair myself. I am not yet comfortable enough with my electronic skills to be tinkering too much for fear of wrecking the machine, or worse myself, so the last option would be a long term endeavor. In the meantime, I will be without an HF rig for the foreseeable future.

Thanks in advance for any advice. This group has been a great resource and while much of it is over my head at the moment, I am picking up valuable knowledge.

73,
Robert/KD0YMC

50609. Re: [TS-520_820_530_830] Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-23 00:00:26 UTC
From: rrmvargo@...
Topic: 50542 Message: 50609

Mike,
When I was checking voltages between my good 830 vs the one with low screen voltage I was checking from ground to the SG terminal on the Final board with my DVM.

As you know, there is a mix of AC & DC on the rectifier board and I was seeing a strange mix of AC & DC on some terminals. If I take the AC voltage I see at SG measured this way, and multiply it by 1.4 and add that to the DCV I see there, I get to the 260VDC I am supposed to see. When I check for ACV on my good unit, I see mV or just the ripple. So this is why I suggest it is the smoking gun.

I need to digest a bit what you described as the circuit operation. Am I wrong in my analysis or approach?

Bob W8RMV

50610. Re: [TS-520_820_530_830] TS-520S - Sell, Salvage, or Fix

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-23 01:03:19 UTC
From: Bill Houghton
Topic: 50608 Message: 50610

Robert,

Sorry to hear about the loss of receive in your rig. Have you verified that it still transmits after the pop and with no receive?
Or is this a case that while they were tweaking the transmitter, they heard a pop, noticed that the receive was gone, shut it down, and called you?

73,

Bill, WA6NEQ

On Mon, 12/22/14, 003402 ray_robert@... [TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com> wrote:

Subject: [TS-520_820_530_830] TS-520S - Sell, Salvage, or Fix
To: TS-520_820_530_830@yahoogroups.com
Date: Monday, December 22, 2014, 1:13 PM

I am a relatively new ham (Tech
in January, General in October) and decided to get a 520S as
a starter rig after doing some research on good
options.
I
found a local 520S that was in good working order. After
getting a walk through on the operation, and the previous
owner making a final contact with it, I transported it home.
 After a quick setup and check out, I found that it
wasn’t transmitting. It seems to receive fine on a few
bands (I am still getting the hang of the antenna tuner and
such). Have listened in on many conversations on 20m with
no issue.
I
checked out some of the obvious things that might have
happened during transport (e.g., SG switch is on, Ext VFO
jumper in place, MC-50 cables in the right order, all seemed
ok). I peeked under the hood and no loose wires or
anything obvious.
I
took it to a local shop to see if they could fix the
transmitting problem (They do not specialize in Kenwood
Hybrids). They were able to get it fixed (to a degree, it
transmits on full power on SSB and CW all the time), but the
receive failed. They were troubleshooting the transmitter
issue and the tech said that he heard a pop and the unit no
longer received. He called after that to see where to go.

He indicated that it could get costly to continue to fix/troubleshoot. I had him stop and would retrieve the unit. I really can’t afford to have a tech continue to spend time/$$ chasing the issue on a rig of this age.

So,

the question is: Do I sell it to someone that can do the work themselves (I don’t think I have the skills to do it), part it out, or try to troubleshoot it/repair myself.

I am not yet comfortable enough with my electronic skills to be tinkering too much for fear of wrecking the machine, or worse myself, so the last option would be a long term endeavor. In the meantime, I will be without an HF rig for the foreseeable future.

Thanks in advance for any advice. This group has been a great resource and while much of it is over my head at the moment, I am picking up valuable knowledge.

73,Robert/KD0YMC

50611. Re: [TS-520_820_530_830] TS-520S - Sell, Salvage, or Fix

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-23 02:06:22 UTC
From: Jim Lamanteer
Topic: 50608 Message: 50611

ROBERT DO U HAVE A CONTACT PHONE NUMBER YOU CAN BE REACHED AT? I MAY BE ABLE TO HELP YOU OR WALK YOU THROU SOME STEPS TO TRY, ITS MUCH EASIER ON THE PHONE AS TO TYPING BACK AND FORTH. JIMMY WB2KNR
From: "003402 ray_robert@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com>
To: TS-520_820_530_830@yahoogroups.com
Sent: Monday, December 22, 2014 4:13 PM
Subject: [TS-520_820_530_830] TS-520S - Sell, Salvage, or Fix

I am a relatively new ham (Tech in January, General in October) and decided to get a 520S as a starter rig after doing some research on good options.
I found a local 520S that was in good working order. After getting a walk through on the operation, and the previous owner making a final contact with it, I transported it home.
After a quick setup and check out, I found that it wasn't transmitting. It seems to receive fine on a few bands (I am still getting the hang of the antenna tuner and such).
Have listened in on many conversations on 20m with no issue.
I checked out some of the obvious things that might have happened during transport (e.g., SG switch is on, Ext VFO jumper in place, MC-50 cables in the right order, all seemed ok).
I peeked under the hood and no loose wires or anything obvious.
I took it to a local shop to see if they could fix the transmitting problem (They do not specialize in Kenwood Hybrids). They were able to get it fixed (to a degree, it transmits on full power on SSB and CW all the time), but the receive failed. They were troubleshooting the transmitter issue and the tech said that he heard a pop and the unit no longer received. He called after that to see where to go. He indicated that it could get costly to continue to fix/troubleshoot. I had him stop and would retrieve the unit. I really can't afford to have a tech continue to spend time/$$ chasing the issue on a rig of this age.
So, the question is: Do I sell it to someone that can do the work themselves (I don't think I have the skills to do it), part it out, or try to troubleshoot it/repair myself.
I am not yet comfortable enough with my electronic skills to be tinkering too much for fear of wrecking the machine, or worse myself, so the last option would be a long term endeavor. In the meantime, I will be without an HF rig for the foreseeable future.
Thanks in advance for any advice. This group has been a great resource and while much of it is over my head at the moment, I am picking up valuable knowledge.
73,Robert/KD0YMC

50612. Re: No Transmit - TS-830S

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-23 02:56:44 UTC
From: rrmvargo@...
Topic: 50542 Message: 50612

Houston, we have ignition! Based on that little explanation (thanx Mike) I knew the next steps. I then pulled the harness that goes to molex 4 on the IF board and rang each wire, but all were good. So then I went pin component side to foil side & they were good. Then I went from pin foil side to the next connecting component & bingo! No connection from pin 2 to the cap buss. Fixed that & now have 264VDC at SG & no AC. That pin 2 was really messed up almost crystallized. Maybe the shorted wire had something to do with that. Wished I'd measured the ACV at the get go. My little calculation was good.

Anyway, thanks to all for the help, endurance and patience on this one. Did I set a thread record?

73 Bob W8RMV

50613. Re: [TS-520_820_530_830] TS-520S - Sell, Salvage, or Fix

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-23 05:40:29 UTC
From: Wes Will
Topic: 50608 Message: 50613

On 12/22/2014 08:06 PM, Jim Lamanteer jimlamanteer@...
[TS-520_820_530_830] wrote:
> ROBERT DO U HAVE A CONTACT PHONE NUMBER YOU CAN BE REACHED AT? I MAY BE ABLE TO HELP

THIS. If not him then someone in the local area. (There is probably a club in your area or close enough to get to on a weekend now and again.)

You --need-- to get some electronics experience if you want to get the most out of this hobby. It's what makes it FUN! Tinkering with a modern all-digital rig is NOT going to help much. But a hybrid has circuitry (and components which are large enough to actually SEE and MANIPULATE!!) which you can understand. And once you understand even a little of it, you will be much more likely to be able to apply that knowledge to gaining more, and so it snowballs.

Just memorizing test question answers does not a good operator make, I am afraid. Too much of that going around in my opinion.

Do at least give fixing your hybrid a try. Get help from whomever you can, including offers from folks on this list. You're a long way from me, I think, or I would loan you some gear and see if we couldn't get you up to a safe speed inside that 520S.

Good luck, hope you at least try it. Challenge yourself. Keeps your mind active, keep you YOUNG even when you get to be an aulde pharte like me.

--
Wes Will
SysAdmin
N9KDY

50614. Re: [TS-520_820_530_830] TS-520S - Sell, Salvage, or Fix

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-23 05:40:30 UTC
From: Wes Will
Topic: 50608 Message: 50614

On 12/22/2014 08:06 PM, Jim Lamanteer jimlamanteer@...
[TS-520_820_530_830] wrote:
> ROBERT DO U HAVE A CONTACT PHONE NUMBER YOU CAN BE REACHED AT? I MAY BE ABLE TO HELP

THIS. If not him then someone in the local area. (There is probably a club in your area or close enough to get to on a weekend now and again.)

You --need-- to get some electronics experience if you want to get the most out of this hobby. It's what makes it FUN! Tinkering with a modern all-digital rig is NOT going to help much. But a hybrid has circuitry (and components which are large enough to actually SEE and MANIPULATE!!) which you can understand. And once you understand even a little of it, you will be much more likely to be able to apply that knowledge to gaining more, and so it snowballs.

Just memorizing test question answers does not a good operator make, I am afraid. Too much of that going around in my opinion.

Do at least give fixing your hybrid a try. Get help from whomever you can, including offers from folks on this list. You're a long way from me, I think, or I would loan you some gear and see if we couldn't get you up to a safe speed inside that 520S.

Good luck, hope you at least try it. Challenge yourself. Keeps your mind active, keep you YOUNG even when you get to be an aulde pharte like me.

--
Wes Will
SysAdmin
N9KDY

50615. Re: [TS-520_820_530_830] TS-520S - Sell, Salvage, or Fix

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-23 05:40:31 UTC
From: Wes Will
Topic: 50608 Message: 50615

On 12/22/2014 08:06 PM, Jim Lamanteer jimlamanteer@...
[TS-520_820_530_830] wrote:
> ROBERT DO U HAVE A CONTACT PHONE NUMBER YOU CAN BE REACHED AT? I MAY BE ABLE TO HELP

THIS. If not him then someone in the local area. (There is probably a club in your area or close enough to get to on a weekend now and again.)

You --need-- to get some electronics experience if you want to get the most out of this hobby. It's what makes it FUN! Tinkering with a modern all-digital rig is NOT going to help much. But a hybrid has circuitry (and components which are large enough to actually SEE and MANIPULATE!!) which you can understand. And once you understand even a little of it, you will be much more likely to be able to apply that knowledge to gaining more, and so it snowballs.

Just memorizing test question answers does not a good operator make, I am afraid. Too much of that going around in my opinion.

Do at least give fixing your hybrid a try. Get help from whomever you can, including offers from folks on this list. You're a long way from me, I think, or I would loan you some gear and see if we couldn't get you up to a safe speed inside that 520S.

Good luck, hope you at least try it. Challenge yourself. Keeps your mind active, keep you YOUNG even when you get to be an aulde pharte like me.

--
Wes Will
SysAdmin
N9KDY

50616. RE: [TS-520_820_530_830] Re: TS-530SP RF Gain

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-23 08:12:25 UTC
From: Thomas Gugler
Topic: 50591 Message: 50616

Terry,

I have verified RF-1 properly set at 3.2 vdc. RFG voltage on IF board connector 12, pin 4 varies between 0.75 vdc with RF Gain control fully CCW, and increases to 3.2 vdc with RF Gain control fully CW.

Any other thoughts or suggestions as I move forward?

Regards

Tom

W7OA

From: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com]
Sent: Monday, December 22, 2014 7:32 AM
To: TS-520_820_530_830@yahoogroups.com
Subject: [TS-520_820_530_830] Re: TS-530SP RF Gain

Have you measured RF-1 and adjusted it as necessary? Also look at RFG on the IF board molex Conn 12.

Terry K9TW

[Non-text portions of this message have been removed]

50617. New file uploaded to TS-520_820_530_830

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-23 16:35:10 UTC
From: TS-520_820_530_830@yahoogroups.com
Topic: 557 Message: 50617

```
Hello,

This email message is a notification to let you know that
a file has been uploaded to the Files area of the TS-520_820_530_830
group.

File : /Message on approved membership-1.txt
Uploaded by : wb7uqu <stilesjoseph@...>
Description : msg on approval

You can access this file at the URL:
https://groups.yahoo.com/neo/groups/TS-520_820_530_830/files/Message%20on%20approved%20mem
bership-1.txt

To learn more about file sharing for your group, please visit:
https://help.yahoo.com/kb/index?page=content&y=PROD_GRPS&locale=en_US&id=SLN15398

Regards,

wb7uqu <stilesjoseph@...>
```

50618. RE: [TS-520_820_530_830] Re: TS-530SP RF Gain

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-23 16:57:46 UTC
From: wagstw46@...
Topic: 50591 Message: 50618

Tom:

I was hoping for an easy fix.

Have you tried tapping on the plastic cover on the aux relay on the IF board with the Marker on and watching the S-meter. Its contacts switch the AGC bus voltage. Sometimes lite tapping will cause better contact closure.

You can measure the AGC bus voltage at the IF board and at the RF board molex connectors but your meter will pull it down. If using a DMM with known 10 meg input Z on low voltage range you should see the 3.2vdc pull down to something around 2.6vdc or little lower.

You can also temporarily apply 3vdc from couple of flashlite batteries to the AGC pin on Molex conn 6 on IF board and if rig comes alive then you know something is pulling down the AGC bus. Usually if the meter FET is bad you wont have any receive and the S meter will be pegged.

Do you have a good RF signal generator? Can inject test RIF signal to see if the IF chain is good and if so then you know problem is on the front end (RF board).

Terry K9TW

50619. Recommended Replacements

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-23 17:13:34 UTC
From: roberteleazer@...
Topic: 50619 Message: 50619

I am getting close to being able to fully power up the TS-520 I have been working on. I'll still have to make some new covers for the power amp section and the relay area on the bottom, but I will apply power and see what occurs before I do that.

So far I have replaced the rectifier board with one that has been rebuilt, including new C1, C2, R5, and R6.

I have replaced C-27A/B, C-28A/B, C-31, C-32, C-33, C-34, and what I think is C-42, a 470uf 16V cap (I used a 470uf 35V cap).

I examined the two 10 ohm resistors in the power amp section and found them to look new and apparently are metal film caps. Resistance of each I measured at about 5 ohms, but of course it is hard to get good measurements at that resistance range.

So, any recommendations on what else I should replace before proceeding further? Of course, the radio came without a 12BY7A or 6146's, so I will be replacing those as well.

Thanks!

Robert
WB5WSV

50620. RE: [TS-520_820_530_830] Re: TS-530SP RF Gain

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-23 20:02:11 UTC
From: wagstw46@...
Topic: 50591 Message: 50620

Forgot to add:

Inject -43dBm or approx 1.6mv @ 8.830 mhz into Conn 1 Pin 3 (RIF) on IF board. This should give you approx S9 indication if the gain controlled devices are seeing appropriate level of AGC bus control voltage.

Terry K9TW

50621. Re: [TS-520_820_530_830] Recommended Replacements

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-23 20:31:41 UTC
From: Mike W5RKL
Topic: 50619 Message: 50621

Robert,

I am wondering if you are saying that each final amp cathode resistor is 5 ohms? I could be wrong but I think you meant to say that the final amp's cathode resistance measured about 5 ohms which would mean each cathode resistor is 10 ohms. You have to lift at least one lead of a cathode resistor to measure each cathode resistor's actual value. You can't measure each cathode resistor with both resistors wired in parallel.

If the final amp cathode resistors were in fact 5 ohms each, that would result in a total cathode resistance of 2.5 ohms which would result in a lower DC voltage applied to the IP meter resulting in erroneous IP meter indications.

73
Mike W5RKL
www.w5rkl.com

On 12/23/2014 11:13 AM, roberteleazer@...
[TS-520_820_530_830] wrote:
>
> I am getting close to being able to fully power up the TS-520 I have
> been working on. I'll still have to make some new covers for the
> power amp section and the relay area on the bottom, but I will apply
> power and see what occurs before I do that.
>
> So far I have replaced the rectifier board with one that has been
> rebuilt, including new C1, C2, R5, and R6.
>
> I have replaced C-27A/B, C-28A/B, C-31, C-32, C-33, C-34, and what I
> think is C-42, a 470uf 16V cap (I used a 470uf 35V cap).
>
> I examined the two 10 ohm resistors in the power amp section and found
> them to look new and apparently are metal film caps. Resistance of
> each I measured at about 5 ohms, but of course it is hard to get good
> measurements at that resistance range.
>
> So, any recommendations on what else I should replace before
> proceeding further? Of course, the radio came without a 12BY7A or
> 6146's, so I will be replacing those as well.
>
> Thanks!
>
> Robert
> WB5WSV
>

>

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http://www.avast.com

50622. Re: Masking tape residue removal

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-23 19:58:08 UTC
From: jbdkz@...
Topic: 50545 Message: 50622

Never though of that, will give it a try.....

John

KD8SCX

50623. Re: Masking tape residue removal

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-23 19:59:07 UTC
From: jbdkz@...
Topic: 50545 Message: 50623

Thanks Graham!

John

KD8SCX

50624. Azden PCS-3000 2M Transceiver No RF Output Repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-23 19:55:11 UTC
From: jbdkz@...
Topic: 50624 Message: 50624

This is off-topic but, seeing that the Azden PCS-3000 does not have a same cult following like the Kenwood hybrids, I figure I publish it here.

Below is a link to my blog on how I transplanted a newer Mitsubishi RF Amplifier Module into my PCS-3000 in order to replace the defective Taiyo RF Amplifier Module that is no longer available.

Maybe this will inspire you to dust off that old Azden in the back of your closet and give it a second chance!

Fixing Azden PCS-3000 2M Transceiver No RF Output Problem
http://jbdkz.hubpages.com/hub/Fixing-Azden-PCS-3000-2M-Transceiver-No-RF-Output-Problem

http://jbdkz.hubpages.com/hub/Fixing-Azden-PCS-3000-2M-Transceiver-No-RF-Output-Problem

Fixing Azden PCS-3000 2M Transceiver No RF Output ...
http://jbdkz.hubpages.com/hub/Fixing-Azden-PCS-3000-2M-Transceiver-No-RF-Output-Problem My adventures in repairing a no RF Output Problem with my Azden PCS-3000 2M Transceiver

View on jbdkz.hubpages.com
http://jbdkz.hubpages.com/hub/Fixing-Azden-PCS-3000-2M-Transceiver-No-RF-Output-Problem
Preview by Yahoo

John

KD8SCX

50625. Re: [TS-520_820_530_830] Azden PCS-3000 2M Transceiver No RF Output Repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-23 22:00:11 UTC
From: Lou Blasco
Topic: 50624 Message: 50625

Hi John,

Even though it is way off topic I think you need
to spend a little more time on that radio.

You need to ensure that new module is screwed
down properly onto the heatsink (with heatsink
compound) or you might be replacing it at some
time in the future. Looks like you only used one screw.

I think you should spend some time trying to
figure out why the fuse blew on low power -
doesn't that seem illogical to you? I don't know
but could it be that in low power mode something
changes in the way the module is connected to the
RF deck? Could it be that in Low Power mode the
module was biased in such a way that it drew too
much current or a supply line got grounded?

If you heard the fuse "pop" then I suggest you
have a serious issue in the radio that should be
addressed. One day it could come back to bite you.

Regards

Lou
VK3ALB

At 06:55 24/12/2014, you wrote:
>
>
>This is off-topic but, seeing that the Azden
>PCS-3000 does not have a same cult following
>like the Kenwood hybrids, I figure I publish it here.
>
>
>
>Below is a link to my blog on how I transplanted
>a newer Mitsubishi RF Amplifier Module into my
>PCS-3000 in order to replace the defective Taiyo
>RF Amplifier Module that is no longer available.
>
>
>
>Maybe this will inspire you to dust off that old

>Azden in the back of your closet and give it a second chance!
>
>
>
>
>
><http://jbdkz.hubpages.com/hub/Fixing-Azden-PCS-3000-2M-Transceiver-No-RF-Output-Problem>
Fixing
>Azden PCS-3000 2M Transceiver No RF Output Problem
><http://jbdkz.hubpages.com/hub/Fixing-Azden-PCS-3000-2M-Transceiver-No-RF-Output-Problem>
>image
><http://jbdkz.hubpages.com/hub/Fixing-Azden-PCS-3000-2M-Transceiver-No-RF-Output-Problem>
>
><http://jbdkz.hubpages.com/hub/Fixing-Azden-PCS-3000-2M-Transceiver-No-RF-Output-Problem>
Fixing
>Azden PCS-3000 2M Transceiver No RF Output ...
>My adventures in repairing a no RF Output
>Problem with my Azden PCS-3000 2M Transceiver
><http://jbdkz.hubpages.com/hub/Fixing-Azden-PCS-3000-2M-Transceiver-No-RF-Output-Problem>
View
>on jbdkz.hubpages.com
>Preview by Yahoo
>
>John
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>KD8SCX
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50626. 830s QRP mod

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-23 21:25:39 UTC
From: Steven Springer
Topic: 50626 Message: 50626

I tried this mod with the 9V battery, a 100K pot and a cable with positive to connector shield and negative to pin 6 on the remote plug in the back. Tuned radio for 100 watts out on CW and applied the - voltage slowly. Nothing happens, no decrease in output. Opened up the radio and did the same with no AC power on the radio. Monitored the - voltage swing between D19 on the AF board and chassis with a DVM. Have a nice 0 to almost -9v swing as I turned the pot hooked to the 9v battery. So I know my circuit is good. The explanation for this mod says it is effective in both CW and SSB.

The only problem I have noted with the radio is the ALC meter pegs to the right when modulating in SSB. It will peg and return to zero repeatedly. As it is doing this I monitor my transmit signal (sm220) and it appears good with no clipping and the audio reports I get are also good. Maybe unrelated problems but thought I would mention it in case it rang a bell with someone. I have spoken to a few other 830S owners who have same issue with ALC meter pegging but output audio is fine.

I am trying this QRP mod so I can tune up a linear amp by slowing increasing the drive. Any suggestions are appreciated. I have a DVM and an oscilloscope.
Steve K0SJS

50627. Re: Azden PCS-3000 2M Transceiver No RF Output Repair

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-23 22:24:33 UTC
From: jbdkz@...
Topic: 50624 Message: 50627

The footprint of the new Mitsubishi RF Module is smaller then the original Taiyo. I secured it with only one screw because I didn't want to risk drilling/tapping a new second hole and having the metal chips short something out. The one screw holds it firmly in place.

Good catch, I used heatsink compound when mounting the new RF module but forgot to mention in the blog.

I could find very little information on the original Taiyo RF module and the Azden manual does not have specifics on low RF power is achieved through bias so I was left my own devices.

Yes, it is an imperfect solution, but, maybe someone can built on my adventure to come up with a better one.

John

KD8SCX

50628. Re: [TS-520_820_530_830] 830s QRP mod

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-24 00:20:26 UTC
From: W5RKL
Topic: 50626 Message: 50628

I could be wrong but to my knowledge TX ALC gain control is not used in CW but is used in SSB.

73
Mike
www.w5rkl.com

On 12/23/2014 3:25 PM, Steven Springer k0sjs@...
[TS-520_820_530_830] wrote:
> I tried this mod with the 9V battery, a 100K pot and a cable with
> positive to connector shield and negative to pin 6 on the remote plug
> in the back. Tuned radio for 100 watts out on CW and applied the -
> voltage slowly. Nothing happens, no decrease in output. Opened up the
> radio and did the same with no AC power on the radio. Monitored the -
> voltage swing between D19 on the AF board and chassis with a DVM.
> Have a nice 0 to almost -9v swing as I turned the pot hooked to the 9v
> battery. So I know my circuit is good. The explanation for this mod
> says it is effective in both CW and SSB.
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> repeatedly. As it is doing this I monitor my transmit signal (sm220)
> and it appears good with no clipping and the audio reports I get are
> also good. Maybe unrelated problems but thought I would mention it in
> case it rang a bell with someone. I have spoken to a few other 830S
> owners who have same issue with ALC meter pegging but output audio is
> fine.
>
>
> I am trying this QRP mod so I can tune up a linear amp by slowing
> increasing the drive. Any suggestions are appreciated. I have a DVM
> and an oscilloscope.
>
> Steve K0SJS
>

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http://www.avast.com

50629. Re: [TS-520_820_530_830] Recommended Replacements

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-24 01:11:05 UTC
From: roberteleazer@...
Topic: 50619 Message: 50629

Mike:

I measured the two resistors while they were still in the circuit and got 5 ohms each. I verified that they are marked as 10 ohm resistors and that they look like relatively new metal film resistors.

I have not done the analysis to see what the value should be in the circuit but if it is 10 ohms or less I figure that they are Okay. I believe the normal failure mode is to fail open? In any case, I don't really trust the measurements of my DVM on resistances that low - I think you need a special ohmmeter to get a good reading even when they are out of the circuit. Most of the time, on the lowest range when I short the leads of the meter I cannot get it to read lower than maybe 25 ohms.

Thanks!

Robert
WB5WSV

50630. Re: [TS-520_820_530_830] Recommended Replacements

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-24 02:10:45 UTC
From: Lou Blasco
Topic: 50619 Message: 50630

Hi Robert,

There's something wrong with either your meter or your leads if you can only read 25 ohms. Even junky meters will read close to zero ohms when you short the leads together - certainly under 2 ohms. Some DVMs have a ohms zero function which allows you to compensate for lead resistance.

Whilst you might need a specialized resistance meter if you want to measure very low resistances with precision any DVM should allow you to easily read 10 ohm resistors within +/- 1 ohm and certainly much better than that.

Regards

Lou
VK3ALB

At 12:11 24/12/2014, you wrote:
>
>
>Mike:
>
>I measured the two resistors while they were still in the circuit
>and got 5 ohms each. I verified that they are marked as 10 ohm
>resistors and that they look like relatively new metal film resistors.
>
>I have not done the analysis to see what the value should be in the
>circuit but if it is 10 ohms or less I figure that they are Okay. I
>believe the normal failure mode is to fail open? In any case, I
>don't really trust the measurements of my DVM on resistances that
>low - I think you need a special ohmmeter to get a good reading even
>when they are out of the circuit. Most of the time, on the lowest
>range when I short the leads of the meter I cannot get it to read
>lower than maybe 25 ohms.
>
>Thanks!
>
>Robert
>WB5WSV

50631. Re: 830s QRP mod

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-24 03:12:09 UTC
From: wagstw46@...
Topic: 50626 Message: 50631

Are you certain that you are on Pin 6? It can be a fooler. Appears you are if you can see variable negative voltage at D19.

This method works in both CW and SSB modes by simply bucking the positive 3.6vdc ALC bus voltage. If it didnt work in CW mode how would you ever set it for SSB mode? Not very convenient to have to inject audio signal into the mic line. Just adjust the pot to reduce the output power to what ever level you want in CW mode after loading to 100 watts output and that is the output power level you will be modulating at in SSB mode.

The ALC bus must be powered and operational in both modes otherwise you would have no control voltage on the TIF amp gate 2 and no TIF output to drive the TX Mixer.

The 830 uses two different ALC time constants for CW and SSB modes. Q20 is used to change the time constant by switching in and out RC network C60 and R98. KW and other mfg commonly do this as form of RF speech compression to increase talk power by slighlty increasing the peak to average ratio. Q20 switch is turned on in SSB mode which produces a time constant that has fast attack/slow decay.

You can see the RC time constant by connecting O-scope to the ALC bus and keying rig and speaking into the mic using five-five-five for example. Can also watch it in CW mode and see the rc time constant when keying.

If you are certain you are connecting your variable source of negative voltage to Pin 6 and chassis ground then only other possible reason it is not working in CW mode is open L2 or open D19 or open D21 (very rare failures).

ALC should not peg the meter in SSB mode. Have you performed Step 31 in the service manual?

Terry K9TW

50632. Re: Many thanks

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-24 00:34:44 UTC
From: christopherlarwood@...
Topic: 50552 Message: 50632

QSL 100%
The knowledge of people in this group & willingness to assist is tremendous.
Terry & Mike in particular - Bravo!
The varied topics, questions & answers make interesting, informative and educational reading.
Vk5LTD Christopher

50633. Re: 830s QRP mod

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-24 03:25:27 UTC
From: wagstw46@...
Topic: 50626 Message: 50633

I forgot to mention are you sure you turned the pot sufficiently?

You will have to apply approx -6vdc before you start to see any reduction in the ALC bus voltage to begin reducing RF drive from the TIF amp. This is due to the series zener.

Terry K9TW

50634. TS-820S Plate Current

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-24 02:46:59 UTC
From: ranger0283@...
Topic: 50634 Message: 50634

I went to tune up my 820 and after allowing ample time for everything to warm up, began the tuning process. First step was to check the plate current to see if it is at 60 milliamps. I did so and it was low, with a a little wavering in the needle. Are my finals toast, or could it be a faulty driver?

Sandy

50635. TS-820s slow to change from tx to rc

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-24 03:12:50 UTC
From: piperpawnee43@...
Topic: 50635 Message: 50635

My 820s is sometimes very slow to switch from tx back to rec. Any ideas?

Thanks
Kenny

50636. Re: [TS-520_820_530_830] TS-820s slow to change from tx to rc

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-24 03:40:42 UTC
From: Joseph Stiles
Topic: 50635 Message: 50636

Kenny,
It is possible the T/R relay is sticking. It is right by the final amplifier board on the underside of the rig. With power OFF and rig UNPLUGGED...make sure that the HV caps have no voltage..check at the "800" terminal on rectifier board. Remove the metal cover and remove relay. You will need some type of contact cleaner...many use DeOxit, and some stiff card stock. Remove the plastic cover on the relay...wet a long thin piece of card stock with cleaner and run between the relay contacts...you will probably see some black residue on the paper...that's good. You will have to manually actuate the armature to get the other contacts clean
73 Joe
WB7UQU

On Tuesday, December 23, 2014 7:25 PM, "piperpawnee43@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

My 820s is sometimes very slow to switch from tx back to rec. Any ideas?
Thanks Kenny

50637. TS820 slow to change from tx back to rec

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-24 03:26:53 UTC
From: piperpawnee43@...
Topic: 50637 Message: 50637

My TS820S is sometimes slow to switch from tx back to receive. It does not have this issue all the time. I have no idea where to start. Any Ideas?

Thanks
Kenny KE4VUY

50638. Re: 830s QRP mod

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-24 04:21:40 UTC
From: k0sjs@...
Topic: 50626 Message: 50638

OK, this is operator error. I was tuning up with the send switch and this ckt being part of the AF board made me think that I needed some audio. I hooked up my key and keyed down a solid tone--and wahhla!! the ALC -vdc cuts the output power from full to zero as I adjust the pot. These rigs are a real learning curve for a new guy but lots of fun. The Kenwood operating manual isn't exactly the best at explaining this rig either. Not real clear and also the manual shows the RAL signal from remote jack going to the IF unit and not the AF. I think they were better at making radios than documenting them,, HA!

Steve K0SJS

50639. Re: 830s QRP mod

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-24 04:26:55 UTC
From: k0sjs@...
Topic: 50626 Message: 50639

Thanks Terry,

I made a reply before I saw your post. Things worked fine after I hooked up my key and sent a solid tone. Just using the send switch in CW mode doesn't work since there is no audio I figure. I will check your suggestion on the ALC pegging issue. Thanks again.

Steve K0SJS

50640. Re: 830s QRP mod

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-24 11:56:58 UTC
From: wagstw46@...
Topic: 50626 Message: 50640

Steve:

Not true.

You do not need to key the rig with a code key in the jack for this mod to work. If you do have a code key in the jack then you need to flip to Send and key the key or turn on the VOX and leave rig in standby and key the key to adjust the pot.

Simply load like normal in CW mode to 100 watts out. Dont reduce the CAR level pot. Now connect your new 9vdc negative supply to Pin 6 and simple flip to Send in CW mode and increase the negative voltage to provide any lower level of RF output power you want in CW mode. OR if you leave key in key jack do as noted above. Now you are ready to operate QRP SSB mode. You use the mic gain as normal.

If you are only going to run QRP CW mode you dont need this mod. You can control the output power by setting the CAR level pot to any level of output power you want.

Using this mod you are varying the gain of the TIF amp by varying the DC control voltage (ALC bus) being applied to Gate 2. Using the CAR Level pot you are varying the signal level applied to Gate 1 of the TIF amp.

The only reason you would use this mod is to be able to operate QRP in SSB mode. OK to use it for CW mode but only really need to use CW mode to adjust where you want output power to be in SSB mode.

Some people will tell you that the mic gain is your rf output power control in SSB mode and that is wrong for several reasons. You want to maintain the proper audio to carrier signal level ratio to the Balanced Modulator so you will have proper carrier suppression, you want to maintain the proper Peak to Average Ratio (PAR) for adequate talk power, and you want the ALC to be able to function properly. Never use the Mic gain as your rf output power control for SSB mode.

Lastly what documentation shows RAL going to the IF board? I know of lots of issues with the 830 documentation but dont recall seeing that one?

Terry K9TW

---In TS-520_820_530_830@yahoogroups.com, <k0sjs@...> wrote :

Thanks Terry,

I made a reply before I saw your post. Things worked fine after I hooked up my key and sent a solid tone. Just using the send switch in CW mode doesn't work since there is no audio I figure. I will check your suggestion on the ALC pegging issue. Thanks again.

Steve K0SJS

50641. Re: 830s QRP mod

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-24 13:05:41 UTC
From: wagstw46@...
Topic: 50626 Message: 50641

Steve

I forgot to mention you will not be able to use ALC indication to adjust your mic gain in QRP operation.

Depending on where you adjust the negative supply voltage to Pin 6 you will have a very high standing ALC indication or the indicator will be pegged hard against the peg. If you have a standing 20 to 30 over you would have to set mic gain nearly full CW position to get any upward flicks of meter deflection.

I dont like having a pegged meter so I would switch my meter off ALC and place it in the Ip position and then will have S meter function in receive and will see small upward deflection of Ip from the 60ma resting current level on modulation in SSB TX mode. DO NOT try to talk up the plate current to some high level. If you do the ALC will still work and drive ALC bus down even further but you wont be able to see it.

If you are using a MC-50 or MC-60 mic just set the mic gain at #5 or 1200 position and speak normally into it as you would at 100 watts.

An inline peak reading wattmeter would be best way to set the mic gain.

Terry K9TW

50642. Re: TS820 slow to change from tx back to rec

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-24 14:49:36 UTC
From: roberteleazer@...
Topic: 50637 Message: 50642

Kenny:

Aside from the possibility of the relay sticking by any chance do you have the VOX switch on?

Good luck!

Robert
WB5WSV

50643. TS520 issue

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-24 15:24:07 UTC
From: n0ee@...
Topic: 50643 Message: 50643

I recently came across a decent TS520, works as it should on 14mhz and above, on 3.5 and 7 mhz it doesn't want to load up and none of the controls has any effect, no output power at all, HV is steady at 800v. When keyed in Tune mode, IP shows 110ma and in CW IP is 280 on both 3.5 and 7mhz. It is putting out 100 watts CW on 14, 90 watts on 15 and about 80 watts on 10 meters, roughly 800v @ 225ma on those bands, I am using an external watt meter into a dummy load. Any suggestions on where to start trouble shooting this issue? Receives great on all bands. I have it on the bench and am going to start with cleaning controls and switches. All suggestions will be greatly appreciated.

50644. RE: [TS-520_820_530_830] Re: TS-530SP RF Gain

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-24 09:09:59 UTC
From: Thomas Gugler
Topic: 50591 Message: 50644

Terry,

Thanks for the guidance. Okay, first up I also checked the 9 Volt AVR line – it was at 8.5 volts. Set it to 9 volts, now S meter will no longer zero – goes down to about S 3. Also now strong signal only moves the meter about 1 S unit.

I tapped on the aux relay – no effect.

I measured the AGC bus, (Heathkit IM-5228 VTVM), and read approx. 2.1 vdc.

When I applied a separate 3 vdc source to the AGC line, noted a significant improvement in receive sensitivity - no effect on S meter.

Injected 8.830 mhz signal at RIF on IF board, (SG is an HP 8640B), at -43 dBm moved S meter about 1 S unit – the same amount as the calibrator. Had to increase to -10 dBm to get S 9. I did not do this while still on the external 3 vdc AGC supply.

During all of these tests, RF Gain control had no effect.

Other thoughts?

Tom

W7OA

From: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com]
Sent: Tuesday, December 23, 2014 8:58 AM
To: TS-520_820_530_830@yahoogroups.com
Subject: RE: [TS-520_820_530_830] Re: TS-530SP RF Gain

Tom:

I was hoping for an easy fix.

Have you tried tapping on the plastic cover on the aux relay on the IF board with the Marker on and watching the S-meter. Its contacts switch the AGC bus voltage. Sometimes lite tapping will cause better contact closure.

You can measure the AGC bus voltage at the IF board and at the RF board molex connectors but your meter will pull it down. If using a DMM with known 10 meg input Z on low voltage range you should see the 3.2vdc pull down to something around 2.6vdc or little lower.

You can also temporarily apply 3vdc from couple of flashlite batteries to the AGC pin on Molex conn 6 on IF board and if rig comes alive then you know something is pulling down the AGC bus. Usually if the meter FET is bad you wont have any receive and the S meter will be pegged.

Do you have a good RF signal generator? Can inject test RIF signal to see if the IF chain is good and if so then you know problem is on the front end (RF board).

Terry K9TW

50645. Re: TS-520S - Sell, Salvage, or Fix

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-24 13:32:18 UTC
From: Robert Ray
Topic: 50608 Message: 50645

From Bill, WA6NEQ

Sorry to hear about the loss of receive in your rig. Have you verified that it still transmits after the pop and with no receive? Or is this a case that while they were tweaking the transmitter, they heard a pop, noticed that the receive was gone, shut it down, and called you?

Bill, thanks for the response. It was pretty much the second scenario. I think they chased a few things after that, but my impression it was going to be a lot more $$, so they called me and shut down trouble shooting. I hope to get more info when I pick up the unit next week. Will post with more details.

From Jimmy WB2KNR

DO U HAVE A CONTACT PHONE NUMBER YOU CAN BE REACHED AT?

Thanks for the offer. I haven’t picked up the rig yet, but would truly appreciate the assistance with troubleshooting. Will shoot you my number off list.

From Wes, N9KDY

Appreciate the feedback. I have been drinking from the knowledge firehose since getting my general, spending just about every free moment tinkering with antennas, doing research, etc. Challenge so far has been finding good, hands-on electronics training locally and haven’t been successful so far with the club (another story). That being said, I am continuing on my education however I can get it. I am working on an old shortwave radio, attempting to bring it back to life (a low risk tinkering project), and I built a DG-5 replacement from plans/circuit board. For the rig, I will get a list of the issues wrong with it and assess from there. In the meantime, have printed a large format copy of the schematic and some of the transmit and receive diagrams to familiarize myself with the details. If you all have the patience for my questions, I think I will give it a go.

Thanks all
73,
Robert/KD0YMC

50646. RE: [TS-520_820_530_830] Re: TS-530SP RF Gain

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-24 17:26:59 UTC
From: wagstw46@...
Topic: 50591 Message: 50646

Did we discuss checking the Product Detector carrier null?

If not perform Step 11 of Service Manual. If carrier (carrier insertion oscillator or BFO in old days) is not nulled it will leak back thru L10 and couple thru C31 to the AGC detector diodes just as a strong off air signal would and will cause the AGC amp to be turned on and pull down the AGC bus voltage and cause a standing S-meter indication. Do this alignment step first. I always clean the trimmer pots and caps first with Deoxit and blow out with canned air and run thru range a few times as they can be pretty noisy and touchy. If you dont have RF millivolt meter can use O-scope to adjust the null. Make sure you are adjusting on the Product Detector and not the Balanced Modulator.

Regards the S meter raising the 9vdc regulated supply to 9vdc level should not affect ability to zero the S-meter. Ordinarily you would align the IFT and do the Coil Pack alignment before calibrating the S-meter. You can skip these steps if confident rig was pretty well aligned at one time. Try perform Step 17 of the Service Manual to see if you can get the S-meter aligned. Dont skip any part of these steps. (8dB = -105dBm and 40dB = -73dBm). If have trouble with Step 17 I would go ahead and do Steps 12 and 13 and then repeat Step 17.

Regarding AGC bus voltage I assume you read 2.1vdc on AGC bus with rig on dummy load, RF gain full CW, and I believe that you previously reported that RF-1 is set at 3.2vdc. That is pretty big drop in voltage for the Heath 11meg vtvm to cause. I would have expected around 2.6 vdc or so. That .5vdc lower control voltage on the Gate 2 of all the IF amps makes big difference in gain. We need to figure out why the AGC bus is at 2.1vdc and not 2.6vdc. Lets eliminate Product Dectector carrier null first.

Terry K9TW

50647. Re: 830s QRP mod

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-24 17:40:40 UTC
From: k0sjs@...
Topic: 50626 Message: 50647

Hello Terry,

Page 13 fig. 3-4 has the ACSY connector which looks to be the remote connector. It shows the RAL to the IF unit from pin 6. A check on the schematic shows it goes to the AF unit.

As for the QRP mod I don't know what was wrong. After many attempts to make it work, I removed the covers and monitored the voltage swing at D19 so I know my cable was correct. Putting it back together I tried the CW key down tone and it worked - so I figured that was the issue. After reading your last post I tried it again without the key and it also works. Probably I didn't have the plug seated all the way the first time and it was sending me on a wild goose chase and/or I may also have a lurking issue with the plug I noticed my VFO plug in the back has a crack in it and probably will fall apart at some point.. Anyway it works just fine both ways and I really appreciate your input - especially all the extra stuff on the way those RC ckts work. I print that stuff out and file it in a notebook for future reference.

Thanks again 73's

Steve K0SJS

50648. Re: [TS-520_820_530_830] Recommended Replacements

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-24 19:30:54 UTC
From: Mike W5RKL
Topic: 50619 Message: 50648

I would advise Robert to remove the probes then short the probe sockets with a short wire. If this simple test results in less than 1 ohm resistance displayed on the meter then the probes are the source of the problem. If the test results in the same 25 ohms displayed on the meter then the meter's at fault.

There are plenty of good quality DMMs being sold on eBay, Mouser, Amazon.com, Digikey, and other on-line websites. I have 3 DMMs, Rolls MU-118, BK 66B7000, and Excel DT9205A. They all have 10Meg input impedance in all AC and DC ranges. Also, a good VTVM is a good item to have. I have a few Heathkit VTVMs, V7A, IM-18, SM-5218, and an Eico 232. I also have the Heathkit IM-5225 FET volt/ohm/ma meter. I have 2 Heathkit IM-17s battery powered FET volt/ohm meters that have AC and DC volt meter ranges to 1KV and resistance ranges from Rx1 ohm to Rx1M in 4 ranges . The IM-17s are good for field use where AC power is not available. All of these VTVMs and FET volt/ohm/ma meters are good additions to a shack in addition to DMM/DVMs. VTVMs can be found on eBay, some with probes and some without probes, all at various prices. Probes are easy to make if the VTVM comes without probes.

73
Mike W5RKL
www.w5rkl.com

This email has been checked for viruses by Avast antivirus software.
http://www.avast.com

50649. Re: 830s QRP mod

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-24 20:18:48 UTC
From: wagstw46@...
Topic: 50626 Message: 50649

My one and only hard copy TS830S operating manual (15207) doesnt have Fig 3-4 on Pg 13. It has Fig 3-3 for the transverter connections. Lots of different revs to the various manuals out there. I primarily use blown up K4EAA schematic with lots of mark ups and notes on it.

Terry K9TW

50650. Re: [TS-520_820_530_830] Re: TS-530SP RF Gain

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-24 20:37:43 UTC
From: Jan Servaites
Topic: 50591 Message: 50650

Terry,
I'm have a similar problem with my 830 here. Do you inject the IF sig right on top of connector #1, without pulling it off the IF board? I was thinking about making up a breakout cable for connector #5 on the RF board, so I could measure AGC and RIF generated/RIF injected
Jan N8CBX

wagstw46@... [TS-520_820_530_830] wrote:

>
>
> Forgot to add:
>
>
> Inject -43dBm or approx 1.6mv @ 8.830 mhz into Conn 1 Pin 3 (RIF) on
> IF board. This should give you approx S9 indication if the gain
> controlled devices are seeing appropriate level of AGC bus control
> voltage.
>
> Terry K9TW
>

50651. Re: 830s QRP mod

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-24 21:04:19 UTC
From: wagstw46@...
Topic: 50626 Message: 50651

I remember this problem now. The version of the TS830 manual that you have has the figure copied from the TS-180 operating manual. It is Fig 5.3 page 24.

Now question is how in the world did they get Fig 5.3 from the TS-180 manual copied into the TS-830 operating manual? You can download the TS-180 manual from Gordon N6WK site to confirm.

I dont know of any single source that has compiled all the errors contained in the KW hybrid documentation. Some are just typos and some are grammar due to translation, but the ones that really hurt are just technically wrong.

Terry K9TW

50652. Re: [TS-520_820_530_830] Re: TS-530SP RF Gain

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-24 21:27:37 UTC
From: wagstw46@...
Topic: 50591 Message: 50652

Jan

If you are asking where to inject test RIF signal on TS830 IF board I simply inject at Conn 6 Pin 6 RIF. No need to unplug molex connector.

I do this test when I am performing split search. Inject audio or touch test lead and a finger to wiper of AF gain pot tells you Audio stage is good. Inject 8.830 RIF at IF board tells you gain controlled devices, AGC, product detector are all working on IF board. You essentially have 4 or 5 key blocks for receiver or transmitter. For receiver Low voltage power supplies, Audio, IF, and RF. Usually very easy to quickly prove each block is working or not.Then can focus troubleshooting efforts to stage that is bad. I almost always rely heavily on signal injection and signal tracing, I have good idea of the required goes ins and goes outs and when I find them missing or low in level I then revert to measuring Dc voltages such as CBE or DGS at active device. Very seldom find bad active devices. Most common is bad molex connectors, cracked PC traces, bad relay contacts etc. So many needlessly replace good transistors and mosfets.

I use floral arrangement pins and mini-grabber test leads. Just prod down inside the Molex connector plug. These pins come in 2.5 to 3 inch length and will have a plastic ball or pearl drop head on them. I slip spaghetti sleeving over the metal pin leaving room for the sharp prod end and leave a space between ball head and shaft at top to clip on the mini-grabber.

I also have an adapter I made by heat shrinking couple of butt splices connectors on piece of bare copper for applying signals and measuring on the PVC board rectangular test post. You can see a picture of it and one of the floral pins on my website.

Terry K9TW

50653. Re: [TS-520_820_530_830] Re: TS-530SP RF Gain

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-24 21:41:37 UTC
From: wagstw46@...
Topic: 50591 Message: 50653

Jan

I forgot to mention when you are deciding where to inject test signals always best to try to get both intra-board molex connectors and the lead wires involved so in this case the very best place to inject test RIF signal is actually at TP-2 on the RF board. I inject -53dBm @ 8.830 mhz there and will get a nice loud tone out speaker and around S5 S-meter indication. This way you are getting the pin to pin pad solder connections at molex connector 5, the pin to pin mating interface surfaces at conn 5, the crimps on the lead wires at conn 5, the lead wires themselves to the IF board Conn 6 and the same set of places where you can have bad connections at Conn 6.

If weak then re-inject at Conn 6 on IF board. If no change, then you no the problem isnt in that interconnecting path where there are so many opportunities for bad high resistance connections. Then you proceed down the IF and Mixer trail. Only problem is KW didnt provide very many test points so have to carefully apply signals with sharp pins, SMT prods, micro grabbers etc.

Terry K9TW

50654. Re: 830s QRP mod

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-24 21:45:07 UTC
From: k0sjs@...
Topic: 50626 Message: 50654

Yup you are spot on Terry. I start to see a reduction in output when at -5.95vdc and at 5 watts output when I reach -6.89vdc. I think I will build a voltage divider so my min to max on the adjustment pot falls in that range. Makes it easier to tune my amp. Now I will see if I can make sense of adjustment step 31 for the ALC. Looks like I need an audio generator.

Thanks and Merry Christmas

Steve K0SJS

50655. Re: TS-520S - Sell, Salvage, or Fix

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-24 20:42:44 UTC
From: clifford wright
Topic: 50608 Message: 50655

OK I'm an old timer (licenced since 1956), but I get really bugged by stories like this.
It is becoming very clear that the old servicing industry is practically dead. Board exchanges
seem to be the best they can do.
The failure of the receiver makes me VERY concerned that they were not using a proper dummy load on the TX. That could certainly blow the front end FET's, and possibly other bits too.
Trying to keep a hybrid going must be a real nightmare for relative beginners and would probably be quite impossible without this groups good work.

It must be very hard to get into electronics these days as the technology has become so mature that "tinkering" has become next to impossible. For example my son (45) became, very wisely, a software engineer. Even though he was brought up around electronics all his life.
Happy new year to all.
ZL1BDA ex G3NIA

This email has been checked for viruses by Avast antivirus software.
http://www.avast.com

50656. TS-830S Freq Shift in CW

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-24 22:50:55 UTC
From: kc5dfp@...
Topic: 50656 Message: 50656

Hello All.

I'm new to the group and this is my first past.

I just picked up a nice TS-830S, which I was tinkering around with due to distorted transmit audio. I slightly loosened and retightened all the screws in attempt to get better grounding, but then I noticed something strange.

I get about a 8KHz shift (increase in freq.) when I put the mode switch in the TUNE position (all other positions read the same freq.). Also when in either the CW wide or narrow modes, when I transmit I get the same shift. It's like working cw split, but I don't have an external VFO hooked up (I do have a vfo-240), nor is the RIT/XIT on. One more thing, the shift DOES NOT happen in USB/LSB at all.

Also, I did retune the oscillator trimmers on the PLL board; TC-3 USB and TC-2 LSB, as in another post it helped clear up the distorted transmit audio (which it didn't in my case). These appear to not effect the shift, so I think there is something else causing the strange frequency shift.

Any insight is greatly appreciated.

Thanks.

Joe
KC5DFP

50657. Re: [TS-520_820_530_830] TS-830S Freq Shift in CW

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-24 23:10:24 UTC
From: Joseph Stiles
Topic: 50656 Message: 50657

Joe,
Are you sure the frequency is shifting 8kHz, or is it shifting 800Hz?
If it is the latter (800Hz) that is NORMAL in "tune" and when set to CW-N or CW-W and transmitter is keyed.

May I suggest that you get a copy of the TS-830S Instruction Manual and become familiar with the controls and what is normal. You can find a good quality one at: n6wk "dot" com. Look under the Kenwood files. Look at Pg 10, #18 MODE SWITCH "tune."
73 Joe
WB7UQU

On Wednesday, December 24, 2014 3:04 PM, "kc5dfp@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

Hello All.
I'm new to the group and this is my first past.
I just picked up a nice TS-830S, which I was tinkering around with due to distorted transmit audio. I slightly loosened and retightened all the screws in attempt to get better grounding, but then I noticed something strange.
I get about a 8KHz shift (increase in freq.) when I put the mode switch in the TUNE position (all other positions read the same freq.). Also when in either the CW wide or narrow modes, when I transmit I get the same shift. It's like working cw split, but I don't have an external VFO hooked up (I do have a vfo-240), nor is the RIT/XIT on. One more thing, the shift DOES NOT happen in USB/LSB at all.
Also, I did retune the oscillator trimmers on the PLL board; TC-3 USB and TC-2 LSB, as in another post it helped clear up the distorted transmit audio (which it didn't in my case). These appear to not effect the shift, so I think there is something else causing the strange frequency shift.
Any insight is greatly appreciated.
Thanks.
JoeKC5DFP

50658. Re: [TS-520_820_530_830] Re: TS-520S - Sell, Salvage, or Fix

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-24 23:45:05 UTC
From: Bill Houghton
Topic: 50608 Message: 50658

Hi Robert,

Pops are not good news but can be better than some other things such as flames!

The first thing I would check is the supply voltages on the rectifier board. If the +14V went away it would kill the RX. Be careful because there are some very high voltages on that board that can kill. If you aren't comfortable making those measurements get some experienced help, maybe from a local ham club. It looks like you can also check pin 2 of the transverter socket for 14V (I'm looking at the TS-520 schematic but I don't imagine the 520S is different in this regard).

The first thing I usually check on any old piece of gear that I work on is the power supply.

73,

Bill, WA6NEQ

On Wed, 12/24/14, Robert Ray ray_robert@... [TS-520_820_530_830]
<TS-520_820_530_830@yahoogroups.com> wrote:

Subject: [TS-520_820_530_830] Re: TS-520S - Sell, Salvage, or Fix
To: TS-520_820_530_830@yahoogroups.com
Date: Wednesday, December 24, 2014, 5:32 AM

From Bill, WA6NEQ
Sorry to hear about the loss of receive in your
rig. Have you verified that it still transmits after the pop
and with no receive? Or is this a case that while they were tweaking the
transmitter, they heard a pop, noticed that the receive was
gone, shut it down, and called you?

Bill, thanks for the response.
 It was pretty much the second scenario. I think they
chased a few things after that, but my impression it was
going to be a lot more $$, so they called me and shut down
trouble shooting. I hope to get more info when I pick up
the unit next week. Will post with more details.
From Jimmy WB2KNR
DO U HAVE A
CONTACT PHONE NUMBER YOU CAN BE REACHED AT?

Thanks for the offer. I haven’t
picked up the rig yet, but would truly appreciate the
assistance with troubleshooting. Will shoot you my number
off list.

From Wes, N9KDY
Appreciate the feedback. I have
been drinking from the knowledge firehose since getting my
general, spending just about every free moment tinkering
with antennas, doing research, etc. Challenge so far has
been finding good, hands-on electronics training locally and
haven’t been successful so far with the club (another
story). That being said, I am continuing on my education
however I can get it. I am working on an old shortwave
radio, attempting to bring it back to life (a low risk
tinkering project), and I built a DG-5 replacement from
plans/circuit board. For the rig, I will get a list of the
issues wrong with it and assess from there. In the
meantime, have printed a large format copy of the schematic
and some of the transmit and receive diagrams to familiarize
myself with the details. If you all have the patience for
my questions, I think I will give it a go.
Thanks all73,Robert/KD0YMC

50659. Re: [TS-520_820_530_830] TS-820s slow to change from tx to rc

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-25 01:34:15 UTC
From: piperpawnee43@...
Topic: 50635 Message: 50659

Pulled relay this evening. Cleaned. Put back in socket.....Working like it should now. Many thanks.

Kenny KE4VUY

50660. Re: [TS-520_820_530_830] TS-830S Freq Shift in CW

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-25 04:53:09 UTC
From: kc5dfp@...
Topic: 50656 Message: 50660

Hey Joe.

Thanks for the reply. After looking at it again it's 800hz. I do have a original manual, and the section you mentioned doesn't indicate an 800hz shift. I'm still thinking something changed with the rig. Tuning in a CW signal on a frequency, and transmitting 800hz higher doesn't seem right. Using another receiver along with the TS-830S I can tune both receivers to the same pitch on a CW signal, but when I transmit on the Kenwood and listen on the other receiver the transmitted tone is higher, about 800hz.

Anyway, Anything further on this is greatly appreciated.

Best,

Joe

50661. Re: [TS-520_820_530_830] TS-820s slow to change from tx to rc

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-25 05:19:13 UTC
From: Joseph Stiles
Topic: 50635 Message: 50661

Kenny,
Glad to help 73 Joe
WB7UQU

On Wednesday, December 24, 2014 5:34 PM, "piperpawnee43@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

  Pulled relay this evening. Cleaned. Put back in socket.....Working like it should now.Many thanks.
Kenny KE4VUY

50662. Re: [TS-520_820_530_830] TS-830S Freq Shift in CW

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-25 05:36:28 UTC
From: Joseph Stiles
Topic: 50656 Message: 50662

Joe,
As stated earlier, the 800Hz shift is normal. Here is what Pg 10 #18 of my TS-830S Instruction Manual says:
  TUNE.....This position provides reduced carrier and shorted key line for transceiver tuning.....
Frequency is shifted approximately +800Hz from the USB or CW receive frequency. This is the actual CW transmit offset. This feature allows you to Zero-Beat an incoming CW signal.
Also, you can refer to Pg 20, (5) CW Operation Fig 4-13.
Say you set your frequency to 14.175.00MHz. You turn the mode switch to "tune," the digital frequency readout will now show 14.175.80MHz. Turn it back to anything else, and the frequency will again show 14.175.00. If mode switch is turned to CW-W or CW-N, the frequency will still show 14.175.00 UNTIL you key the transmitter. The as long as the transmitter is keyed in CW, the frequency will show 14.1750.80. It will not shift up +800Hz in USB or LSB during transmission.
Again, this is normal
 73 Joe
WB7UQU

On Wednesday, December 24, 2014 9:17 PM, "kc5dfp@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

  Hey Joe.
Thanks for the reply. After looking at it again it's 800hz. I do have a original manual, and the section you mentioned doesn't indicate an 800hz shift. I'm still thinking something changed with the rig. Tuning in a CW signal on a frequency, and transmitting 800hz higher doesn't seem right. Using another receiver along with the TS-830S I can tune both receivers to the same pitch on a CW signal, but when I transmit on the Kenwood and listen on the other receiver the transmitted tone is higher, about 800hz.
Anyway, Anything further on this is greatly appreciated.
Best,
Joe

50663. Re: [TS-520_820_530_830] TS-830S Freq Shift in CW

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-25 05:30:37 UTC
From: Tom k2bew
Topic: 50656 Message: 50663

Joe,
Not sure what you downloaded or read but in the TS-830S manual from here;

http://www.n6wk.com/kenwood/TS-830S_Instruction_manual.pdf
http://www.n6wk.com/kenwood/TS-830S_Instruction_manual.pdf

on page 10 , 18. Mode Switch" under the section that says "Tune" in the Manual that Joe refrenced it says the following:

"Frequency is shifted approximatly +800 hz from the USB from the upper sideband or CW receive frequency.
This is the actual CW transmit offset. This feature allows you to Zero-Beat an incoming CW signal".

73,
Tom K2BEW

this post shortened as it contained already posted material. 73 Joe wb7uqu

50664. Re: [TS-520_820_530_830] TS-830S Freq Shift in CW

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-25 05:36:06 UTC
From: Tom k2bew
Topic: 50656 Message: 50664

Joe,

Sorry for the typos, lets try again.
I re-read your respnse and see you have an actual manual.
Maybe you have a different manual than the one online?

In the TS-830S manual from here;

http://www.n6wk.com/kenwood/TS-830S_Instruction_manual.pdf
http://www.n6wk.com/kenwood/TS-830S_Instruction_manual.pdf

on page 10

18. Mode Switch
Tune.....

".....Frequency is shifted approximatly +800 hz from the USB or CW receive frequency.
This is the actual CW transmit offset. This feature allows you to Zero-Beat an incoming CW signal".

73,
Tom K2BEW

On Thu, Dec 25, 2014 at 12:30 AM, Tom k2bew <tombewick@gmail.com
mailto:tombewick@gmail.com> wrote:
Joe,
Not sure what you downloaded or read but in the TS-830S manual from here;

http://www.n6wk.com/kenwood/TS-830S_Instruction_manual.pdf
http://www.n6wk.com/kenwood/TS-830S_Instruction_manual.pdf

on page 10 , 18. Mode Switch" under the section that says "Tune" in the Manual that Joe refrenced it says the following:

"Frequency is shifted approximatly +800 hz from the USB from the upper sideband or CW receive frequency.
This is the actual CW transmit offset. This feature allows you to Zero-Beat an incoming CW signal".

73,
Tom K2BEW

this post shortened/edited as it contained already posted material. 73 Joe wb7uqu

50665. Re: 830s QRP mod

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-25 12:00:33 UTC
From: wagstw46@...
Topic: 50626 Message: 50665

I thought you were using this to run QRP. Didnt know wanted to reduce power to drive Linear Amp.

I would opt for a simple 3db attenuator made from thick film resistors. Can be manually switched, relay switched or just left in the line at all times as will have minimal effect on receiver. Last couple pages of this article show manually switched pad. Using attenuator keeps jack freed up so can still use ALC from the amp to the exciter.

http://www.ad5x.com/images/Articles/HiPwrPad.pdf
http://www.ad5x.com/images/Articles/HiPwrPad.pdf

Yes a good stable and accurate Audio Generator is a must (accurate and stable level very important). DDS Function generators are not too expensive these days. Probably the best way to set the SSB frequency response (carrier oscillator set point) is to use Audio Gen/Wattmeter method.

Can be physical unit or might look into some of the software units. Go thru the service manual and note every step that uses audio generator and what level is required. Then look at specs of units you are considering to make sure it can operate at these levels. For years I had to use a frequency counter and a true RMS audio vtvm to confirm my old analog sine wave generator was putting out what its dial and step attenuator said and it never was accurate and would change up or down as i went up and down frequency. I finally got a decent arbitrary waveform generator and makes the job so much easier.

Terry K9TW

50666. Re: [TS-520_820_530_830] TS-830S Freq Shift in CW

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-25 15:46:37 UTC
From: kc5dfp@...
Topic: 50656 Message: 50666

Joe/Tom,

Thank you for the replies; I appreciate them greatly.

I do have an original manual and it does not indicate the frequency shift, BUT I did download a copy from the net which sure does indicate the shift! I guess my radio is working just fine, and the manual I have is an early edition.

Seeing I've only had the radio for less than a week there's a getting familiar period, and I should spend more time with it, but so far I think it's great. I'm pretty impressed with it seeing it's old technology, and comparing to other radios I've had, it's measures up well.

Again, I appreciate both your responses and for helping me understand the radio a bit more.

Take care and 73s (and Happy Holidays!).

Joe
KC5DFP

50667. Re: [TS-520_820_530_830] TS-830S Freq Shift in CW

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-25 19:54:27 UTC
From: Joseph Stiles
Topic: 50656 Message: 50667

Joe,
You are welcome. One of the nice things about the 830S, is you can monitor your signal. I like to use headphones, and engage the "moni" button. You should be able to hear if there is any distortion as reported. There are many reasons this could happen...RF feedback, incorrectly wired mic, too high of mic gain.
Happy Holidays
 73 Joe
WB7UQU

On Thursday, December 25, 2014 7:46 AM, "kc5dfp@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

  Joe/Tom,

Thank you for the replies; I appreciate them greatly.
 I do have an original manual and it does not indicate the frequency shift, BUT I did download a copy from the net which sure does indicate the shift! I guess my radio is working just fine, and the manual I have is an early edition.
 Seeing I've only had the radio for less than a week there's a getting familiar period, and I should spend more time with it, but so far I think it's great. I'm pretty impressed with it seeing it's old technology, and comparing to other radios I've had, it's measures up well.
Again, I appreciate both your responses and for helping me understand the radio a bit more.
Take care and 73s (and Happy Holidays!).
JoeKC5DFP

50668. RE: [TS-520_820_530_830] Re: 830s QRP mod

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-25 16:06:21 UTC
From: David Boothe
Topic: 50626 Message: 50668

Good suggestion on the attenuator, Terry. I built the AD5X unit and use it between my 820S/590S and my ALS-600 amp. Works very well and straightforward to build using his instructions and parts list. It stays in line and when the amp is not turned on, it is bypassed. I take the 12V to operate the relay from the ALS-600 12V outlet. As you say, no noticeable effect on receive on either rig when operating.
Merry Christmas to all!
Dave
KC3CIP

this msg/post shortened/edited as it contained already posted material. 73 Joe wb7uqu

50669. Re: Hum in VOX

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-26 06:31:02 UTC
From: junkmailsux@...
Topic: 50578 Message: 50669

On a similar note, I've read that it's best to keep the power down when using digital modes. I've found a dozen messages in this group with a dozen different ways of doing this. What's the best way to reduce output power without a permanent mod?

Chad
KK6DPE

50670. Re: [TS-520_820_530_830] TS-830S Freq Shift in CW

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-26 15:06:01 UTC
From: kc5dfp@...
Topic: 50656 Message: 50670

Hey Joe.

Thanks. I've used headphones to monitor my audio and the only way to get rid of the distortion is to lower the MIC level, but then this hardly drives the radio and puts out barely 30 watts. I'm suing a MC-50 and a hand mic and both produce the same result. Resetting TC2 & TC3 (LSB/USB) on the PLL board cleaned up the audio a bit, but not completely/ I highly suspect it's RF interference as the audio is a bit warbley too. I'm going to check all the connections and grounding points, as well as doing some net searches, and go from there. Any insight is welcome.

Thanks Again.

Joe
KC5DFP

50671. Re: [TS-520_820_530_830] TS-830S Freq Shift in CW

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-26 16:36:14 UTC
From: Jan Servaites
Topic: 50656 Message: 50671

I have noticed this as well in both my 530/830, that the mic gain increases the mic sensitivity and back ground noise starts to rise a lot? Back the gain down and the background is gone, but no power. I haven't noticed this in my other radios (Tempo 2020, Yaesu 901/902) as much. Could this be in the mic pre-amp circuit design?
Also, just holding/touching/bumping the MC-50, amplifies tremendously. At the last Kenwood net, Mark said he could hear the fan noise from my 530, but that was my shop heater across the room from the station. Testing my 830 last night demonstrated the same thing. Extremely high mic sensitivity.
Jan N8CBX

kc5dfp@... [TS-520_820_530_830] wrote:

>
>
> Hey Joe.
>
> <>Thanks. I've used headphones to monitor my audio and the only way to
> get rid of the distortion is to lower the MIC level, but then
> this hardly drives the radio and puts out barely 30 watts.<>
>

50672. Re: [TS-520_820_530_830] TS-830S Freq Shift in CW

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-26 16:47:10 UTC
From: Joseph Stiles
Topic: 50656 Message: 50672

Joe,
What you are most likely doing is over driving...and causing splatter around your center frequency.
If you are not using a "peak reading watt meter" you will not get a true reading of your RF output. If you have mic gain set correctly...ie...speaking about 1 to 2 inches or so from mic...in a normal tone/volume...the meter switch set to "ALC"...transmit and advance the "MIC" control just so the needle deflects up off the resting position on voice peaks. Seeing 30 watts or so when on SSB using an "averaging" type watt meter(most common) is fine. Overdrive, splatter...and other signal annoyances, are not good ham practices.
 73 Joe
WB7UQU

On Friday, December 26, 2014 8:36 AM, "Jan Servaites jservaites@... [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com> wrote:

  I have noticed this as well in both my 530/830, that the mic gainincreases the mic sensitivity and back ground noise starts to rise alot? Back the gain down and the background is gone, but no power. Ihaven't noticed this in my other radios (Tempo 2020, Yaesu 901/902) asmuch. Could this be in the mic pre-amp circuit design?
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Jan N8CBX

kc5dfp@... [TS-520_820_530_830] wrote:
  Hey Joe.

50673. Re: 830s QRP mod

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-26 18:07:49 UTC
From: k0sjs@...
Topic: 50626 Message: 50673

Well,, actually I need the mod for QRP (future use) and the amp. This is an old Heathkit SB230 solid state (8873) amp I resurrected from its dusty grave. It had a new transformer in it but was wired wrong. It had the receipt for the transformer stuck in it and was dated 1986. So I assume the amp has been idle since the new transformer was installed wrong and wouldn't work. The manual states to slowly increase exciter output power and tune the amp at 100ma IP intervals until 500ma is reached. About 5 steps in all. So I need to be able to vary output of the 830S as I bring the amp up to 500ma IP in steps. The 830S is outputting about 75Watts when the amp is at 500ma IP. Anything more is too much. I know I could do this with the carrier level in CW, but would not be any good when I switched to SSB, soooo the QRP mod was needed to slowly bring the amp IP to full output.. I have built a simple voltage divider with the adjustment in the -5.75vdc to -7.1vdc range. This gives me 0 - 100 watts on my 830S. Probably not the same for all units but works great for me. This is the first time I have messed with a linear amp so I am tuning it by the book.

I got a bit off the Kenwood subject here but I know it must be hard for the experts to answer questions when they don't have the rig in front of them. I take no offense to being told I am wrong and appreciate all the input. Terry gives long answers and I love to read all that extra stuff he adds. We are not in a repair world anymore, Everything is throw away and buy a new one. I don't know the future of this hobby but I don't think it's in computers. They will FAIL when you most need them.

Steve K0SJS

50674. Re: [TS-520_820_530_830] TS-830S Freq Shift in CW

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-26 18:50:22 UTC
From: John Davidson
Topic: 50656 Message: 50674

MIC GAIN JUST DOES THAT, Increasing the gain of the mic amplifier and thus the level of whatever sound reaches the mic, weather it is your voice or room noise. I would get closer to the mic and close the door of the ham shack, or hang sound deadening cloth curtains on the walls. I NEVER have this problem since I only operate on CW !!!:D :D My radio is Ham Radio...CW is Real Radio
73, John...K8JD
From: "Jan Servaites jservaites@... [TS-520_820_530_830]"
<TS-520_820_530_830@yahoogroups.com>
To: TS-520_820_530_830@yahoogroups.com
Sent: Friday, December 26, 2014 11:36 AM
Subject: Re: [TS-520_820_530_830] TS-830S Freq Shift in CW

  I have noticed this as well in both my 530/830, that the mic gainincreases the mic sensitivity and back ground noise starts to rise alot? Back the gain down and the background is gone, but no power. Ihaven't noticed this in my other radios (Tempo 2020, Yaesu 901/902) asmuch. Could this be in the mic pre-amp circuit design?
Also, just holding/touching/bumping the MC-50, amplifies tremendously.At the last Kenwood net, Mark said he could hear the fan noise from my530, but that was my shop heater across the room from the station.Testing my 830 last night demonstrated the same thing. Extremelyhigh mic sensitivity.
Jan N8CBX

kc5dfp@... [TS-520_820_530_830] wrote:
  Hey Joe.

50675. Re: [TS-520_820_530_830] TS-830S Freq Shift in CW

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-26 19:36:55 UTC
From: wagstw46@...
Topic: 50656 Message: 50675

Jan:

Where are you normally running the mic gain and experiencing this extreme high sensitivity with your TS830?

Also have you calibrated the ALC meter circuit Step 31 in the Service manual? You will need a calibrated Audio generator to inject the correct mv levels or a true rms AC voltmeter to confirm using correct levels.

Could have the ALC meter sensitivity set too low fooling you into thinking you have to increase mic gain to get active ALC meter indication.

The 830 is designed to be used with MC50 or MC60. About only mic I have found you have to be careful with is Shure 444D. I run both the KW mics and the Shure is lot hotter. With my voice I cant run mic gain above #4 position. Not very scientific but a MC-50/MC-60 open circuited will put out approx 15mv using "five-five-five" and not real close talking it. The Shure 444D using same method puts out 25mv to 30mv. The Shure is good mic for communication presence audio and chasing DX barefoot. With or without speech processor I find can break more pile ups using it. Just have to watch where you set the mic gain.

Terry K9TW

50676. Re: [TS-520_820_530_830] TS-830S Freq Shift in CW

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-26 21:21:47 UTC
From: lotek1@...
Topic: 50656 Message: 50676

The current Issue of QST (January) has an excellent article on RF in the shack. The need for "bonding" beyond basic ac safety grounding is well written. We all have more devices in our shacks than was the case pre-computers.

Phil Shadle- K3EZU

----- Original Message -----

From: "kc5dfp@yahoo.com [TS-520_820_530_830]" <TS-520_820_530_830@yahoogroups.com>
To: "TS-520 820 530 830" <TS-520_820_530_830@yahoogroups.com>
Sent: Friday, December 26, 2014 10:06:01 AM
Subject: Re: [TS-520_820_530_830] TS-830S Freq Shift in CW

Hey Joe.

Thanks. I've used headphones to monitor my audio and the only way to get rid of the distortion is to lower the MIC level, but then this hardly drives the radio and puts out barely 30 watts. I'm suing a MC-50 and a hand mic and both produce the same result. Resetting TC2 & TC3 (LSB/USB) on the PLL board cleaned up the audio a bit, but not completely/ I highly suspect it's RF interference as the audio is a bit warbley too. I'm going to check all the connections and grounding points, as well as doing some net searches, and go from there. Any insight is welcome.

Thanks Again.

Joe

KC5DFP

50677. Re: [TS-520_820_530_830] TS-830S Freq Shift in CW

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-26 21:44:43 UTC
From: Jan Servaites
Topic: 50656 Message: 50677

Terry,
No, I haven't, so I'll try doing that calibration maybe tonight.
I still haven't found my low RX signal problem in the 830. I'm going to
just use the 830 as it is and again look for the problem in a month or two.
I did do a signal level traceability test, Terry....but not sure what to
think about it. Its not agreeing with the service manual's levels in the
front end.
Jan N8CBX

wagstw46@... [TS-520_820_530_830] wrote:

>
>
> Jan:
>
> ...have you calibrated the ALC meter circuit Step 31 in the Service
> manual?
>
> Terry K9TW
>
>
>

50678. Re: Hum in VOX

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-27 01:08:29 UTC
From: junkmailsux@...
Topic: 50578 Message: 50678

Has anyone tried this for QRP? Will it work on the plain 520??

The TS-520S can be operated QRP down to a few milliwatts with simple modification. Apply negative voltage on the ALC pin of the ancillary socket.

Modification consists of a 220K Ohm pot and a 9V battery.
Positive terminal of battery to ground (Pin 4)
Negative terminal of battery in series with 220K pot to ALC pin on socket.(Pin 6)

Maximum of 34 microamps drawn so battery should last a long time.

Thanks again,
Chad
KK6DPE

http://www.vss.pl/mods.dk/ts520qrp.gif http://www.vss.pl/mods.dk/ts520qrp.gif

http://www.vss.pl/mods.dk/ts520qrp.gif

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View on www.vss.pl http://www.vss.pl/mods.dk/ts520qrp.gif
Preview by Yahoo

50679. Re: [TS-520_820_530_830] TS-830S Freq Shift in CW

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-27 13:23:43 UTC
From: wagstw46@...
Topic: 50656 Message: 50679

Jan:

Is this a TS830 that had burned up L41? If so I know we discussed how to bench test the rewound L41 before installing in the rig but not sure if we discussed testing the BCB filter?

I have found 3 or 4 bad L1 2.7uhy chokes after an inadvertent transmit event that takes out L41. Sometimes you can even see it as the green body of this shunt choke will have a darkened brown/black ring around it.

I always test the BCB by placing the band switch in 160 meters, Drive control at 1200, and inject low level 1.9mhz into SO-239 and then measure RF voltage at S1-2. If you inject -43dBm should be able to peak approx 11.0 mv at S1-2. Now start running the frequency down and observe the roll-off of the filter. Should start to see level falling immediately and see about 1/2 voltage (5mv to 6mv) at 1.7mhz.

The BCB is a high pass filter that is in the off air signal path to prevent front end blocking if you live in an urban area that has strong broadcast band stations.

IF L1 is bad it shunts RF signals to ground and greatly alters the freq response characteristics of the BCB filter. Doing the roll off test prevents having to pull the choke to measure it. If you have the board out can inject test RF into TP-1 and measure output at S1-2. I have never found any of the other LC components of the BCB hurt other than L1.

Terry K9TW

50680. TS-520 Repair Progress Report

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-27 13:54:53 UTC
From: roberteleazer@...
Topic: 50680 Message: 50680

Early this morning I finally applied power - as in full AC power - to the TS-520 I have been repairing. At first I got nothing - turns out the shorting plug had fallen part way out. This was a bit of a surprise since I have never had a TS-520 or TS-820 come with the shorting plug installed!

Once the plug was in I got lights and sound - and better yet, no smoke. The audio output from the speaker is not very loud but sounded Okay. My $1.50 Heathkit SG-6 signal generator chose this morning to quit (should have brought the much better $10 HP one over to the bench) but I was able to copy 40 Meter SSB, and WWV at 10 MHZ was right bang on, all received with nothing more than an alligator clipwire plugged into the antenna socket and inside a metal airplane hangar with the door closed.

80 Meters was very quiet, and the 25 KHZ calibrate signal was weak, but on 7 MHZ and 14 MHZ the calibration signal was quite loud, but less so on 15 and 10 meters.

The high voltages coming out of the transformer were a little low, for example, the 400VAC measured as 350VAC, but the output of the HV board to the power amp section was 944VDC, so I guess that is working OKay.

The front panel meter does not seem to be doing much of anything and actually went down a bit when tuning in the strong calibration signals.

So, while there is still a lot to do, the rig is coming along not too badly and may actually get back on the air one day.

Thanks for all y'all's help, and Happy New Year!

Robert
WB5WSV

50681. Re: [TS-520_820_530_830] TS-520 Repair Progress Report

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-27 14:08:32 UTC
From: R Oler
Topic: 50680 Message: 50681

Well Done very well done. in the true ham spirit...impressive Robert WB5MZO /TA1 awaiting Turkish call sign

Sent from my iPad

> On Dec 27, 2014, at 15:54, roberteleazer@rocketmail.com [TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com> wrote:
>
> Early this morning I finally applied power - as in full AC power - to the TS-520 I have been repairing. At first I got nothing - turns out the shorting plug had fallen part way out. This was a bit of a surprise since I have never had a TS-520 or TS-820 come with the shorting plug installed!
>
> Once the plug was in I got lights and sound - and better yet, no smoke. The audio output from the speaker is not very loud but sounded Okay. My $1.50 Heathkit SG-6 signal generator chose this morning to quit (should have brought the much better $10 HP one over to the bench) but I was able to copy 40 Meter SSB, and WWV at 10 MHZ was right bang on, all received with nothing more than an alligator clipwire plugged into the antenna socket and inside a metal airplane hangar with the door closed.
>
> 80 Meters was very quiet, and the 25 KHZ calibrate signal was weak, but on 7 MHZ and 14 MHZ the calibration signal was quite loud, but less so on 15 and 10 meters.
>
> The high voltages coming out of the transformer were a little low, for example, the 400VAC measured as 350VAC, but the output of the HV board to the power amp section was 944VDC, so I guess that is working OKay.
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>
> So, while there is still a lot to do, the rig is coming along not too badly and may actually get back on the air one day.
>
> Thanks for all y'all's help, and Happy New Year!
>
> Robert
> WB5WSV
>
>
>
>

50682. Re: TS-530S suddenly lost RX

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-27 16:29:30 UTC
From: yellow_kite@...
Topic: 50532 Message: 50682

Thanks Terry for great piece of information.

I should be working on this Radio on the weekend. Will revert.

73
Rahul
VU2YK

50683. Re: [TS-520_820_530_830] TS-830S Freq Shift in CW

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-27 16:52:15 UTC
From: Jan Servaites
Topic: 50656 Message: 50683

Terry,
Yes, this is the 830 that we discussed back in (?) January or so, about troubleshooting my 830 RX front end. And this effort lead to my discovery of re-winding and testing the L41. I did pull my L41 and it tested just fine and as well as Q1. But I did a signal level trace measurement from TP1 to Q1 and I wasn't getting as high a signal level at Q1, so it has to be a bad component somewhere in that chain. I suspected the BCB high pass filter, but I didn't see any discoloring on L1 or L2, so I thought I needed to come up with a proceedure to sweep the filter. So, I'll proceed with your technique today after the Hybrid Net today. I'm now pretty sure its L1 after reading your post.
By the way Terry, I did the sideband, ALC and compressor alignments last night and my mic audio is much better! I'll do the same to my 530 later on this weekend.
Thanks again Terry, I couldn't have learned, what I learned, without your help.
Jan N8CBX

wagstw46@... [TS-520_820_530_830] wrote:

>
>
> Is this a TS830 that had burned up L41? If so I know we discussed how
> to bench test the rewound L41 before installing in the rig but not
> sure if we discussed testing the BCB filter?
>
> <>
>
> Terry K9TW
>
>

50684. Re: [TS-520_820_530_830] TS-830S Freq Shift in CW

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-27 17:46:12 UTC
From: wagstw46@...
Topic: 50656 Message: 50684

OK Jan I wasnt sure as I see and discuss so many Hybrids with so many people it all starts to blur together after awhile!

Look at my website under Pictures and you can see a Spectrum Analyzer sweep of the BCB filter, but as mentioned you can just use a straight RF sig gen and RF millivolt meter or O-scope and test your BCB pretty quickly.

Only other elements in the path are the 8.830 mhz wavetraps and never seen one of those hurt either.

D2 transmit protection diode is usually good or bad. Never seen a leaky one. It is there to protect Q1 from your own transmit RF and not for ESD protection as some believe. It gets biased on by the IR drop across resistor R35 in the Driver tube cathode circuit when the 12BY7A is biased on in Send.

73s
Terry K9TW

50685. RE: [TS-520_820_530_830] Re: TS-530SP RF Gain

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-27 18:19:13 UTC
From: Thomas Gugler
Topic: 50591 Message: 50685

Terry,

I took a few days off for Holiday and family. I hope you had a very Happy Holiday!

Okay, performed step 11. The trimmer did indeed vary the uV level on Q4, but the low point I got was about 13 uV while the service manual suggests a 5 uV null, (meter is a Boonton 92B). While I was there, I checked the DC voltages at Q4 – all were close to those posted on the schematic.

The S meter is a puzzle. It indeed will not zero unless I drop the 9 volt rail to about 8.2 vdc, lowest I can go is about S 5 at 9v, (I double checked the voltage with my trusty Simpson 260 to verify accuracy). It also will not indicate any signal strength at 9 vdc – flipping AGC to off also has no effect it just stays at S 5. Things seem to act more normal at 8.2 vdc. I dropped the rail to 8.2 vdc and performed steps 12 and 13. The IF strip and Ant – RF coil packs were all pretty close before and all were able to be peaked. When that was all said and done went back and performed step 17. The meter zeros – Vr1 all the way CCW to get there. At recommended SG levels S meter reads about S 4, Vr2 fully CW, (same as with the calibrator BTW).

RF Gain control continues to have no effect. Also varying the 3.2 volt level has no effect on operation.

Regards

Tom

W7OA

From: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com]
Sent: Wednesday, December 24, 2014 9:27 AM
To: TS-520_820_530_830@yahoogroups.com
Subject: RE: [TS-520_820_530_830] Re: TS-530SP RF Gain

Did we discuss checking the Product Detector carrier null?

If not perform Step 11 of Service Manual. If carrier (carrier insertion oscillator or BFO in old days) is not nulled it will leak back thru L10 and couple thru C31 to the AGC detector diodes just as a strong off air signal would and will cause the AGC amp to be turned on and pull down the AGC bus voltage and cause a standing S-meter indication. Do this alignment step first. I always clean the trimmer pots and caps first with Deoxit and blow out with canned air and run thru range a few times as they can be pretty noisy and touchy. If you dont have RF millivolt meter can use O-scope to adjust the null. Make sure you are adjusting on the Product Detector and not the Balanced Modulator.

Regards the S meter raising the 9vdc regulated supply to 9vdc level should not affect ability to zero the S-meter. Ordinarily you would align the IFT and do the Coil Pack alignment before calibrating the S-meter. You can skip these steps if confident rig was pretty well aligned at one time. Try perform Step 17 of the Service Manual to see if you

can get the S-meter aligned. Dont skip any part of these steps. (8dB = -105dBm and 40dB = -73dBm). If have trouble with Step 17 I would go ahead and do Steps 12 and 13 and then repeat Step 17.

Regarding AGC bus voltage I assume you read 2.1vdc on AGC bus with rig on dummy load, RF gain full CW, and I believe that you previously reported that RF-1 is set at 3.2vdc. That is pretty big drop in voltage for the Heath 11meg vtvm to cause. I would have expected around 2.6 vdc or so. That .5vdc lower control voltage on the Gate 2 of all the IF amps makes big difference in gain. We need to figure out why the AGC bus is at 2.1vdc and not 2.6vdc. Lets eliminate Product Dectector carrier null first.

Terry K9TW

50686. Re: Hum in VOX

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-27 19:58:39 UTC
From: bauertom@...
Topic: 50578 Message: 50686

Yup. Works perfectly on my TS830S.. Only thing I added was a switch as it drained my battery in about a month just sitting. Couldn't measure a voltage drain but it killed 2 batteries before I added the switch. Cheap Radio Srcap pot I guess. Tom
KE0ABA

50687. RE: [TS-520_820_530_830] Re: TS-530SP RF Gain

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-27 22:41:55 UTC
From: wagstw46@...
Topic: 50591 Message: 50687

Tom

Since radio has been in your possession did it work correctly and then develop this problem or has it always acted this way?

I think you mean 13mv and not 13uv. About best I have ever seen is 2mv. Must have the RF gain backed all the way down so you are shutting down Q4. Dont want any RIF involved. Now can measure the Product Detector Carrier level at Drain of Q4. Drain is top right lead. Should be able to adjust TC-2 trimmer to get carrier nulled to close to 2mv and certainly less than 5mv. When you turn RF gain put full CCW to perform this step does the S meter peg hard full scale? It should. If it does not you cannot do this step.

When you say RF gain doesnt do anything not sure what you mean by that? Do you mean it Does Not cause the S meter to move upscale from its standing S5 to full scale deflection with pot turned full CCW?

It is normal to have No S meter action with AGC in OFF. This is because AGC amp is back biased with -6vdc and detector diodes cant turn it on so it cannot pull down the AGC bus voltage and cause S meter to drive upscale.

Are you saying that the S meter sits at S4 or S5 and does not go up scale with any of the following:
1. Reduced RF gain pot with AGC on Slow or Fast or OFF positions
2. Turn on the Marker signal
3. Inject signal into SO-239 with RF sig gen

Does VR-2 S meter span adjust trimmer pot have any effect on reading?

I recall you measuring the RFG voltage at the IF board and able to vary voltage from 3.2vdc to approx 0.80vdc by reducing RF gain pot from full CW to full CCW position. If that is true RF gain pot is doing exactly what it is supposed to do.

I would set 9vdc rail back to 9vdc as it belongs. I am beginning to suspect something wrong with S meter FET Q7. I think I mentioned they normally are good or bad and dont get weak, but I wonder if someone has replaced the factory 2SK19GR with a sub. Cannot use just any old generic FET in this application. And have to be careful about lead transpositions with a sub. Sometimes on ebay can find NOS Toshiba original FETs. Other option is to buy a spare IF board and swap out.

Suggest you also measure the AGC bus resistance to chassis ground with rig downpowered. Should be approx 2.2 meg ohm.

I think we also applied 3vdc from batteries to power the AGC bus and I think you said the gain picked up as it should. You of course would have no AGC action and no S meter reading as batteries are low Z power source and the AGC amp cant pull them down. What this test proves is nothing wrong with any of the gain controlled mosfets.

Most common thing to pull down the AGC bus and cause a standing S-meter reading is a shorted Meter FET, but normally it pulls bus down very low and pegs the S meter. A standing S4 or S5 says there is a short but not a hard fault. Maybe a leaky AGC timing cap (3 on the IF board and 1 on the RF board) or leaky meter FET if there can be such a thing?

Sorry so disjointed but I am losing track of what we have done. Hard to troubleshoot this way.

Terry K9TW

50688. Re: [TS-520_820_530_830] Re: Hum in VOX

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-27 23:20:26 UTC
From: Mike W5RKL
Topic: 50578 Message: 50688

I would have to look at the ALC circuit to see what resistance is causing the increased decay of the 9 volt battery.

The external circuit has a 200K pot in series with the battery. If you removed the connection from the pot's wiper to pin 6, the typical current load on the 9 volt battery would be approximately 45ua (9 / 200000 = .000045). That should last more than a month.

73
Mike W5RKL
www.w5rkl.com

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http://www.avast.com

50689. Reccommended Digital VOM

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-28 05:42:25 UTC
From: w8sfc@...
Topic: 50689 Message: 50689

I would love to have a Fluke VOM but I don't have bunches to spend. I'm needing a very good digiital "Fluke Like" VOM. All I have are an a Motorola Analog VOM 11 Megohms per volt and a Microanta Dual FET VOM, 10 Megohms per volt. So you see a digitital unit is needed in my shack.
Gents, give me your recommendations, extras, prices and sources!

73 Sid W8SFC

50690. Re: [TS-520_820_530_830] Reccommended Digital VOM

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-28 07:48:25 UTC
From: Lou Blasco
Topic: 50689 Message: 50690

Hi Sid,

You have two very nice meters already. They will certainly do everything you could ever want on a radio work bench.

However, if you really need a DMM then why not look for one that might augment some of the functions you already have with your two analog meters. Some features that come to mind are;

Resistance checking is a whole lot easier with a DMM so that's a positive.
A continuity beeper is also good. Check the max resistance before the beeper quits working.
A diode check function is a neat thing to have but of course you can already do that with your meters.
Look for some kind of frequency measuring capability - audio frequencies for a start. I've seen some meters that go to 2MHz.
How about inductance and capacitance measurements? Check the minimum range on each and check the test frequency the meter uses. There's not much use have a LC meter that won't read below 2 Farads or 2 Henries.
3 1/2 digit display is pretty normal but 4 1/2 digits is great for measuring small voltages.
Another cool thing to look for is a relative mode. This means you can measure a voltage, hit the zero button and make your adjustment and see how the value changes relative the initial value.
Look for an integrated bar graph in the display. Looking at a bunch of number dance on the screen while you adjust something is the pits. With the bar graph you can see if you're adjusting in the right direction.

Plenty of DMM's have some or all of these features and you can get them for around $50 to $100 or more depending on your budget. Here in Australia you get a lot of meter for $100 to $150.

I think of more importance it to make sure it comes with a good manual (in proper english), with a detailed list of specifications and check the build quality including the probe sockets and the leads. How easy is it to change the battery or the fuse(s). Are the fuses easy to get if you need more? Some of those bigger DMM fuses are outrageously expensive. These points will usually give you a pretty good indication of the quality of the meter. Also ask if you can get service and support from your seller if you need it.

Regards

Lou
VK3ALB

At 16:42 28/12/2014, you wrote:
>
>
>I would love to have a Fluke VOM but I don't have bunches to spend.
>I'm needing a very good digiital "Fluke Like" VOM. All I have are an
>a Motorola Analog VOM 11 Megohms per volt and a Microanta Dual FET
>VOM, 10 Megohms per volt. So you see a digitital unit is needed in my shack.
>Gents, give me your recommendations, extras, prices and sources!
>
>73 Sid W8SFC

50691. Parting Knwd/Trio TS520

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-28 08:24:30 UTC
From: k7mks@...
Topic: 50691 Message: 50691

Parting TS-520 including complete VFO assy, CW filter, DC power supply module, MC-35S switchable noise canceling mic, original AC power cord & connector, plus other -520 parts galore. What might you need? joe k7mks

50692. Re: Reccommended Digital VOM

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-28 12:41:59 UTC
From: rrmvargo@...
Topic: 50689 Message: 50692

http://www.tequipment.net/Amprobe37XR-A.html

I have one & it is quite nice. Inductance & Freq
https://mail.aol.com/38865-418/aol-6/en-us/Suite.aspx# up to 20MHz
https://mail.aol.com/38865-418/aol-6/en-us/Suite.aspx#.

73 Bob W8RMV

50693. Re: Reccommended Digital VOM

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-28 13:40:23 UTC
From: dl.hedrick@gmail.com
Topic: 50689 Message: 50693

At one point on Ebay you could find the fluke 27 US Army DMM for very cheap. They were surplused in great quantities and most had recent calibrations.

You can also keep an eye out for some of the old 8205 meters. I have also ran into a few deals on the 77. I paid dearly for mine, there are deals out there if you look for them.

Dave

N6DLH

50694. Re: [TS-520_820_530_830] Re: Reccommended Digital VOM

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-28 14:39:28 UTC
From: Mike W5RKL
Topic: 50689 Message: 50694

There are a number of Fluke 27's being sold on eBay, both new and used, some working and some NOT working. There's one seller that has one for sale in working condition, with probes, for $49.99 plus shipping (see ebay seller ad #281523448954 for further details).

When purchasing use DMMs, pay close attention to the seller's description. Quite often buyer miss important comments about the item being sold by not reading the description. If the item says something to the affect of "the meter does not power up...", that could mean the fuse is blown or it could mean the meter is damaged beyond repair and could cost a lot of money to get fixed.

If the meter being sold on eBay is working but doesn't have the Banana tip probes, you can buy new Banana tip probes on eBay. Just pay attention to the probe specifications, not all probes have an AC/DC voltage rating of 1KV.

The Fluke 27 service manual can be downloaded from my website:

www.w5rkl.com

Click on the Manuals, Docs, and Mods link at the top of the page then scroll down to the Fluke manuals list and click on Fluke 27 link.

73
Mike W5RKL
www.w5rkl.com

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http://www.avast.com

50695. Re: [TS-520_820_530_830] Re: Reccommended Digital VOM

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-28 14:43:29 UTC
From: Mike W5RKL
Topic: 50689 Message: 50695

I mistakenly said
/*
//"*//*There's one seller that has one for sale in working condition,
with probes, for $49.99 plus shipping (see ebay seller ad
#*//*281523448954 for further details).*//*"*/

Shipping for that ad is "/*FREE*/".

73
Mike W5RKL
www.w5rkl.com

On 12/28/2014 8:39 AM, Mike W5RKL w5rkl@... [TS-520_820_530_830]
wrote:
>
> There are a number of Fluke 27's being sold on eBay, both new and
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> scroll down to the Fluke manuals list and click on Fluke 27 link.
>
> 73
> Mike W5RKL
> www.w5rkl.com
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50696. Re: [TS-520_820_530_830] Re: Reccommended Digital VOM

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-28 15:57:32 UTC
From: Louis Wilen
Topic: 50689 Message: 50696

Something to beware of about the Fluke 27: It is not a true RMS meter. Or maybe some of them are. See:

http://www.eevblog.com/forum/blog/eevblog-372-fluke-27-multimeter-review-teardown/

Louis
W3VVV

From: mailto:TS-520_820_530_830@yahoogroups.com
Sent: Sunday, December 28, 2014 9:43 AM
To: TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830] Re: Reccommended Digital VOM

I mistakenly said

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Shipping for that ad is "FREE".

73
Mike W5RKL
www.w5rkl.com

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The Fluke 27 service manual can be downloaded from my website:

www.w5rkl.com

Click on the Manuals, Docs, and Mods link at the top of the page then scroll down to the Fluke manuals list and click on Fluke 27 link.

73
Mike W5RKL

www.w5rkl.com

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www.avast.com

50697. Re: Recommended Digital VOM

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-28 18:50:31 UTC
From: Technical Writer
Topic: 50697 Message: 50697

Sid:

This summer I bought a Fluke 175 True RMS Digital Multimeter that more than meets my needs for $250. This replaced a Heath DVM that I built over 35 years ago. Have kept it since it is still in calibration, although it is clunkier to use. hi hi

I also bought a nice set of silicone test leads (spring hooks, aligator clips and probes) from franky@... for about $20 that came via China Post. I use these instead of the vinyl leads (-- how cheap of Fluke!) that came with the meter.

There are used industrial grade Fluke FT87 series DVMs on eBay but I decided not to take a chance. And besides, the 175 comes with a limited lifetime factory warranty.

73
Hugh KA3TTW (Advanced)

50698. FS: Almost perfect 2 Year old KENWOOD TS-520S station

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-28 17:58:23 UTC
From: Kent Hufford
Topic: 50515 Message: 50698

FOR SALE: 2 year old Kenwood TS-520S with matching 520 external VFO w/cable and matching TS520 Speaker. Internal PS, runs off of 125vac.

Equipment was purchased in 1977 and put in the closet when owner went SK in 1979. Equipment had plastic dust covers on all, all this time. Almost perfect.

Does have 2 years' worth of use, plus a little plastic rubbing. Leather stitched handle looks brand new. Operates great on all bands, 100 watts output. Does not have WARC bands.

Original Owner's manual, Original Sales receipts from Nov 1977. Original Log book 1977-1979.

Absolutely gorgeous! Should not go to a new ham as "first radio". Would like to sell complete for $450. Shipping extra.

OR trade for a later model Kenwood or ICOM; 440SAT, 450SAT, 735. Equipment is to support a public Middle School HAM Club.

Photos available. In Aiken SC area

Kent

KQ4KK

khufford@... <mailto:khufford@...>

803-392-7339

50699. Kenwood Hybrid Net Update (December 28, 2014)

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-28 19:18:44 UTC
From: Mark Gilger
Topic: 50699 Message: 50699

Net Info:
Saturday: 7.235 @ 3:30pm Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm
The net started it's existence on November 1st,
2011. The yearly check-in totals are posted at the bottom of this message.

The Saturday's net was run by me, WB0IQK. There
were 27 stations checking in under good band conditions.

We had the following number of radios checking in.

5 running TS-520(x)
3 running TS-530(x)
7 running TS-820(x)
6 running TS-830S
0 running TS-511
0 running TS-511
0 running 599 twins

I was running my TS-830s & Drake L4B amplifier.

The Sunday net was run by me, WB0IQK. There were
18 stations checking in under fair band
conditions. We had the following number of radios checking in.

2 running TS-520(x)
2 running TS-530(x)
1 running TS-820(x)
3 running TS-830S
0 running TS-510
0 running TS-511
1 running 599 twins

The rest were running non Kenwood hybrid equipment.

He was running my TS-940S + Drake L4B amplifier.

We have been having several people checking in
regularly with their TS-430, TS-440, and
TS-940□s, which of course is not a hybrid,
although over 30+ years old. Everyone is welcome
as long as they have an interest in the older equipment.

If anyone would be interested in filling in as a net control station, please send me an email. Currently it's just myself, and Jimmy, WB2KNR . I would like to get several more. If we do, we can alternate so everyone might be on a 3-4 week rotation. It's a lot of fun and a good way to make sure you station is optimized.

For anyone that has not heard, we have a new web site that WB4HFN is hosting. He currently has a very nice site for Drake, Collins and Heathkit and now Kenwood Hybrids. Good quality manuals plus sale flyers and brochures will be found here, along with user supplied information for all Hybrids.

His URL is:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

To date, we have had the following check-in:

Nov. 2011 ☐ Oct. 2012 Saturday total 754
check-ins, Sunday total 563 check-ins
Nov. 2012 - Oct. 2013 Saturdays total 828 check-ins, Sunday total 609 check-ins
Nov. 2013 - Oct. 2014 Saturdays total 842 check-ins, Sunday total 744 check-ins

November 2014, Saturday☐s net total 142, Sunday☐s total = 88

December 2014, Saturday☐s net total 92, Sunday☐s total = 86 (Month to date)

Net Info:
Saturday: 7.235 @ 3:30 Eastern following the Swan Tech Net
Sunday: 14.316 @ 1800 UTC following the ICOM net

Web Site:
<http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm>http://www.wb4hfn.com/KENWOOD/KenwoodHomePage.htm

73's,
Mark, WB0IQK

[Non-text portions of this message have been removed]

50700. TS-520 Filament Question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-29 19:29:36 UTC
From: roberteleazer@...
Topic: 50700 Message: 50700

I have discovered that there is almost no power going to the power amp tube filaments on the TS-520 I am working on.

I measure 60 ohms across the heater power switch, which might explain at least part of the problem.

But does anyone know where the filament for the 12BY7A is depicted on the TS-520 schematic? The schematics I have only show the 6146 filaments.

Thanks,

Robert
WB5WSV

50701. Re: [TS-520_820_530_830] TS-520 Filament Question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-29 21:20:48 UTC
From: Mike W5RKL
Topic: 50700 Message: 50701

Robert,

All you have to do is follow the driver and both final unit filament wiring back through the 12 pin power plug to the power transformer. The internal 12 pin power plug wiring is shown with all the jumpers on the TS-520 and TS-520S schematics.

Depending which TS-520/520S/520SE you have, the 12VAC secondary terminals will be labeled either 12.4 or 12.6 on the power transformer's secondary schematic.

The TS-520 and TS-520SE schematics show the power transformer's 12VAC secondary filament and dial AC voltage terminal as 12.6 while the TS-520S shows the same power transforemr's 12VAC secondary filament and dial AC voltage terminal as 12.4.

The 12.4 or 12.6 winding terminal connects to pin 10 in the 12 pin power plug. The power plug Pin 10 has a jumper to pin 7 which, when plugged into the rear 12 pin connector, connects directly to the dial lamps and the Heater switch in the TS-520 and TS-520S.

There is no Heater switch nor a 12 pin power plug/connector on the TS-520SE so pin 7 connects directly to the dial lamps and the driver and both final tube filaments.

73
Mike W5RKL
www.w5rkl.com

On 12/29/2014 1:29 PM, roberteleazer@... [TS-520_820_530_830]
wrote:
>
> I have discovered that there is almost no power going to the power amp
> tube filaments on the TS-520 I am working on.
>
> I measure 60 ohms across the heater power switch, which might explain
> at least part of the problem.
>
> But does anyone know where the filament for the 12BY7A is depicted on
> the TS-520 schematic? The schematics I have only show the 6146 filaments.
>
> Thanks,
>
> Robert
> WB5WSV
>
>

>

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50702. Re: [TS-520_820_530_830] TS-520 Filament Question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-29 21:34:38 UTC
From: Mike W5RKL
Topic: 50700 Message: 50702
Attachments: 1 described; binary payloads are missing from this source WARC

Robert,

I don't know how you missed the 12BY7 filament on the RF Unit so I cut and pasted the RF Unit that clearly shows the 12BY7 filament at the RF Unit's "H" terminal. The below RF Unit schematic is the same on all 3 TS-520s.

You simply follow the "H" wiring back to the 12VAC filament and dial lamp secondary. If you 520 has the 12 pin power plug/connector, the filament and dial lamp AC voltage is routed through pin 7 to pin 10 and terminating at the 12.6 or 12.4, depending on which 520 you have, secondary winding terminal.

73
Mike W5RKL
www.w5rkl.com

On 12/29/2014 3:20 PM, Mike W5RKL w5rkl@... [TS-520_820_530_830] wrote:
>
> Robert,
>
> All you have to do is follow the driver and both final unit filament
> wiring back through the 12 pin power plug to the power transformer.
> The internal 12 pin power plug wiring is shown with all the jumpers on
> the TS-520 and TS-520S schematics.
>
> Depending which TS-520/520S/520SE you have, the 12VAC secondary
> terminals will be labeled either 12.4 or 12.6 on the power
> transformer's secondary schematic.
>
> The TS-520 and TS-520SE schematics show the power transformer's 12VAC
> secondary filament and dial AC voltage terminal as 12.6 while the
> TS-520S shows the same power transforemr's 12VAC secondary filament
> and dial AC voltage terminal as 12.4.
>
> The 12.4 or 12.6 winding terminal connects to pin 10 in the 12 pin
> power plug. The power plug Pin 10 has a jumper to pin 7 which, when
> plugged into the rear 12 pin connector, connects directly to the dial
> lamps and the Heater switch in the TS-520 and TS-520S.
>
> There is no Heater switch nor a 12 pin power plug/connector on the
> TS-520SE so pin 7 connects directly to the dial lamps and the driver
> and both final tube filaments.
>

> 73
> Mike W5RKL
> www.w5rkl.com
>
>
>
>
>
>
> On 12/29/2014 1:29 PM, roberteleazer@...
> [TS-520_820_530_830] wrote:
>> Â
>>
>> I have discovered that there is almost no power going to the power
>> amp tube filaments on the TS-520 I am working on.
>>
>> I measure 60 ohms across the heater power switch, which might explain
>> at least part of the problem.
>>
>> But does anyone know where the filament for the 12BY7A is depicted on
>> the TS-520 schematic?Â The schematics I have only show the 6146
>> filaments.
>>
>> Thanks,
>>
>> Robert
>> WB5WSV
>>
>>
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> ---
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50703. Re: [TS-520_820_530_830] TS-520 Filament Question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-29 22:01:39 UTC
From: Mike W5RKL
Topic: 50700 Message: 50703
Attachments: 1 described; binary payloads are missing from this source WARC

Robert,

Just in case you can't find the 12VAC filament and dial lamp secondary winding, I've cut and pasted the secondary along with the 12 pin power plug and plug wiring.

Note how the 12.4 terminal connects directly to pin 10 on the power plug. Looking at the internal wiring of the power plug you will see that pin 10 connects to pin 7. Looking at pin 7 you see that pin 7 connect to the 4 dial and meter lamps and the Heater switch as well as to pin 4 on the remote VFO socket. Pin 4 on the remote VFO socket provides dial lamp and relay voltage to the remote VFO.

I have a high resolution schematic that contains receive and transmit voltages that you should have. You can download that high resolution schematic from my website's Manuals, Docs, and Mods page. Simple scroll down to the TS-520S listing and click on the high res schematic link and download it to your computer, it's in pdf format.

73
Mike W5RKL
www.w5rkl.com

On 12/29/2014 1:29 PM, roberteleazer@... [TS-520_820_530_830]
wrote:
>
> I have discovered that there is almost no power going to the power amp
> tube filaments on the TS-520 I am working on.
>
> I measure 60 ohms across the heater power switch, which might explain
> at least part of the problem.
>
> But does anyone know where the filament for the 12BY7A is depicted on
> the TS-520 schematic? The schematics I have only show the 6146 filaments.
>
> Thanks,
>
> Robert
> WB5WSV
>
>
>

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50704. Re: Reccommended Digital VOM

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-29 22:27:14 UTC
From: ray_robert@...
Topic: 50689 Message: 50704

Timely info, I am looking for a decent multimeter for the bench.

What other equipment would be a necessity for basic repairs for a Kenwood Hybrid? I have a decent soldering iron set up, a basic DVM, and a dummy load. I have seen references to VTVM, RF Voltmeter/probe, signal generator. I have seen reasonably priced Heathkit VTVMs and signal generators on Ebay, but wonder about folks opinion on those. I know there are lots of variables in that ask.

I am still waiting on picking up my 520s from the shop. Weather on the front range in Colorado is rough this week. You will recall that I was talking about selling or salvaging. I am going to give it a try on the troubleshooting/repair.

One of the early projects will likely be a re-cap. I don't think it had been done yet. I will get back to the list on the list of issues after I pick it up from the shop.

Regards,
Robert/KD0YMC

50705. Re: [TS-520_820_530_830] TS-520 Filament Question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-30 01:25:46 UTC
From: roberteleazer@...
Topic: 50700 Message: 50705

Mike:

I was able to find the 12BY7A filament in the TS-520S schematic very easily but since I am working on a TS-520 I wanted to use the data for that rig. If you say the two RF boards are the same, that's good enough for me. But I never have been able to find the filament on the TS-520 schematic, either the main drawing or the one for the RF board.

I already did some tracing of the schematic and set wiring, and tomorrow I guess I will take the front panel off so I can access the heater power switch. Perhaps then I can confirm that the switch has failed. What does not make sense so far is that the 60 ohms of resistance I measure in the switch should not affect the reading at the 6146 sockets given that none of the tubes are installed at present and thus current flow should be almost nonexistent.

If the Heater Power really did fail I am considering installing a regular DPDT toggle switch on the back of the set. I might then wire in a Heater Power" light on the front; I think that would be better anyway. I wish we had an "SG Switch On" light on the front panel, too.

Another possible option would be to turn the switch upside down and rewire it using the two currently unused contacts, depending if the failure mode allows that.

One confusing measurement result is that I have 19VDC on one side of the Heater Power switch. I don't know where that comes from at this point. The regular 14V DC supply is running at 13.5VDC and I adjusted the 9VDC supply from the 8.4VDC it was to 9.1VDC.

Do you know why a DPDT switch was used for the Heater Power Switch? Of course, it is wired as DPST switch, but what do those other two contacts do? Is it associated with the switch between DC and AC power?

I have a high res TS-520S schematic but have been unwilling to trust it for troubleshooting and repairing a TS-520. It certainly is much clearer and has those voltage measurements as well. I have been copying segments of the TS-520 main schematic, pasting them into MS Picture IT, enlarging them and printing them out. The TS-520S schematic would be much better for that purpose if it was indeed usable.

Thanks very much!

Robert
WB5WSV

50706. Re: Reccommended Digital VOM

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-30 03:03:41 UTC
From: roberteleazer@...
Topic: 50689 Message: 50706

Robert:

I just wrote a fairly detailed set of comments on type of test equipment needed and recommendations based on my experiences with extensive repairs to a TS-820S, as well as fixing one TS-520 and another TS-520 I am in the process of rebuilsing.

But Mozilla Firefox locked up and ate it all. And I lack the time and inclination to recreate it.

So good luck.

Robert
WB5WSV

50707. 1950's ham radio equipment.

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-30 13:22:13 UTC
From: Billy Bob
Topic: 50707 Message: 50707

Hello all, I hope you all had a merry Christmas and to come a happy new year.Our radio club, (NOARS) And the Lorain County Wireless Operators, here in Ohio are looking for donations of 1950's radio equipment to set up a station in the old Lorain Harbor Lighthouse. Any donations will gladly be accepted.During the month of August 2015 we will be working stations from the lighthouse.

Message from Lorain County Wireless :
The Lorain County Wireless Operators are happy to announce the fourth straight year of operating from the Lorain Harbor Light August 14, 15 & 16 2015 in support of the International Lighthouse Lightship Weekend. This has become one of the waterfront's feature events drawing attention to the lighthouse. Each year the LCWO has provided either labor, supplies or advertising to support the Lighthouse Foundation's continued efforts to return the light to its status as "Jewel of the Port". This year will be no different. The foundation is returning the structure and contents to a 1950's look and feel. In doing so they have agreed to feature an operational or static display, to be on permanent loan, of a period amateur radio station. The goal is a operational station as other events will be structured around it much like the USS Cod or the Zoo's Rainforest. This will also expose the public tours and private events that take place in the lighthouse to amateur radio. So how can you help? We are looking for 1950's era equipment to build a station. We are also in search of a few hams that are proficient in the operation and maintenance of the equipment. We would like it to be fully operational or in a state that can be returned to operation. If you would like to help or have an equipment donation please contact Jeff Evans, KB8ZUN, at either kb8zun@gmail.com or 440-228-6081. This is a great opportunity to insure amateur radio continues to thrive and is in the public eye while paying back in honoring all the Elmers who helped us all in our continued growth in the hobby. You will also insure your callsign's lega-cy as a contributing force in the restoration of a National Landmark. 73, Jeff Evans KB8ZUN
Bill WD8OSJ

50708. Re: [TS-520_820_530_830] TS-520 Filament Question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-30 14:27:20 UTC
From: W5RKL
Topic: 50700 Message: 50708

Robert,

Do I know why they used a DPDT heater switch? Yes and you can easily see why by studying the TS-520 main schematic AND the DC to DC converter schematic!!

I recommend you do the following:

1. Go to my website and click on the Manuals, Docs, and Mods link at the top of the page
2. When the Manuals, Docs, and Mods page comes up, scroll down to the TS-520 listing and click on listing #1
3. When the page downloads (pdf format), go do page 50 and notice the "HEATER SWITCH" that connects the TS-520 power transformer's CT to B1 and B2 secondary winding.
4. Go to page 51 (main schematic) and look at the bottom right corner section of the main schematic and you will see a DPDT "HEATER SWITCH" labeled "S10". One half of the HEATER SWITCH S10 controls the application of the driver and both final tube filament voltage from the power transformer's 12.6. You have to trace the wiring from the center terminal of the HEATER switch through the power plug/connector pin 10 to pin 7 and from pin 7 down to the 12.6 terminal on the power transformer. The 12.6 terminal voltage is "AC" NOT "DC" so you have to set your volt meter to measure AC voltage.

I can't comment on why you see 60 ohms since I do not have a

The other half of the HEATER switch is used to connect the TS-520 power transformer "CT" terminal in the B1 and B2 windings to R1 on the DC to DC converter.

Now, click the pdf reader's page advance arrow twice (down arrow) and that will bring up the RF Unit schematic. You then click the pdf reader's "Rotate" icon so the schematic rotates "CW" ONLY ONCE! Now look along the right edge of the RF Unit schematic about a 1/3 to 1/2 way down and you will see a terminal labeled "H". To the "left" of the "H" terminal you will see "L7", C35, and a circle with 2 terminals labeled "4" and "5". L7 and C35 connect to terminal "5". Notice the sideways "V" inside the circle, that is the 12BY7 driver tube's filament schematic symbol!!!

73
Mike W5RKL
www.w5rkl.cm

On 12/29/2014 7:25 PM, roberteleazer@... [TS-520_820_530_830] wrote:

>
> Mike:
>
> I was able to find the 12BY7A filament in the TS-520S schematic very
> easily but since I am working on a TS-520 I wanted to use the data for
> that rig. If you say the two RF boards are the same, that's good
> enough for me. But I never have been able to find the filament on the
> TS-520 schematic, either the main drawing or the one for the RF board.
>
> I already did some tracing of the schematic and set wiring, and
> tomorrow I guess I will take the front panel off so I can access the
> heater power switch. Perhaps then I can confirm that the switch has
> failed. What does not make sense so far is that the 60 ohms of
> resistance I measure in the switch should not affect the reading at
> the 6146 sockets given that none of the tubes are installed at present
> and thus current flow should be almost nonexistent.
>
> If the Heater Power really did fail I am considering installing a
> regular DPDT toggle switch on the back of the set. I might then wire
> in a Heater Power" light on the front; I think that would be better
> anyway. I wish we had an "SG Switch On" light on the front panel, too.
>
> Another possible option would be to turn the switch upside down and
> rewire it using the two currently unused contacts, depending if the
> failure mode allows that.
>
> One confusing measurement result is that I have 19VDC on one side of
> the Heater Power switch. I don't know where that comes from at this
> point. The regular 14V DC supply is running at 13.5VDC and I adjusted
> the 9VDC supply from the 8.4VDC it was to 9.1VDC.
>
> Do you know why a DPDT switch was used for the Heater Power Switch? Of
> course, it is wired as DPST switch, but what do those other two
> contacts do? Is it associated with the switch between DC and AC power?
>
> I have a high res TS-520S schematic but have been unwilling to trust
> it for troubleshooting and repairing a TS-520. It certainly is much
> clearer and has those voltage measurements as well. I have been
> copying segments of the TS-520 main schematic, pasting them into MS
> Picture IT, enlarging them and printing them out. The TS-520S
> schematic would be much better for that purpose if it was indeed usable.
>
> Thanks very much!
>
> Robert
> WB5WSV
>
>
>

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50709. Re: [TS-520_820_530_830] TS-520 Filament Question

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-30 15:13:42 UTC
From: roberteleazer@...
Topic: 50700 Message: 50709

Mike:
'

Yes, I did all of that circuit tracing - great minds think alike. And I guess that the answer is that they use direct DC power for the filaments when the set is running on DC and they run it off of the transformer when it is running on AC - rather than running it off the LV DC power all the time.

This morning I got the Heater Switch out of the front panel a ways and finally was able to measure across it. And it tests fine. I'll have to do some more tracing and testing to figure out why the filament power is not getting to the tubes.

Thanks, and Happy New Year!

Robert
WB5WSV

50710. 820 blows fuse

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-30 09:02:45 UTC
From: beeson.neil@...
Topic: 50710 Message: 50710

Great news, my $50 TS820 is up and running. If the bloke I got it of new that the problem was that the shorting plug wasn't making contact he would be upset but my gain.
It does have a problem. On the lower bands it tunes up fine(125w CW) but try doing a tune up on 15 and 10mtr bands and it blows the power fuse. So any advise welcome
73
Neil Beeson
VK6NSB

50711. 12 way power block wiring

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-30 16:39:27 UTC
From: ian macfarlane
Topic: 50711 Message: 50711

I just purchased a ts830s. Can anyone please confirm the wiring of the 12 way power block on the mains lead, please note this is for 240v. Its currently damaged but its looks like its was wired on pins 1,3,6. with
pin 1 to earthpin 3 neutralpin 6 live
I'm confused about if it matters about live and neutral positions. Its not clear in the manual about which wire is live and if it matters about them being reversed.
73
Ian Macfarlane
M6TSO

50712. Re: [TS-520_820_530_830] 820 blows fuse

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-30 17:15:34 UTC
From: Mike W5RKL
Topic: 50710 Message: 50712

If you set the CAR control fully CCW and key the transmitter in TUNE on
15 and 10, does the fuse blow?

73
Mike W5RKL
www.w5rkl.com

On 12/30/2014 3:02 AM, beeson.neil@... [TS-520_820_530_830] wrote:
>
> Great news, my $50 TS820 is up and running. If the bloke I got it of
> new that the problem was that the shorting plug wasn't making contact
> he would be upset but my gain.
>
> It does have a problem. On the lower bands it tunes up fine(125w CW)
> but try doing a tune up on 15 and 10mtr bands and it blows the power
> fuse. So any advise welcome
>
> 73
>
> Neil Beeson
>
> VK6NSB
>
>

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50713. Re: [TS-520_820_530_830] 12 way power block wiring

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-30 17:49:02 UTC
From: Mike W5RKL
Topic: 50711 Message: 50713
Attachments: 3 described; binary payloads are missing from this source WARC

Primary power, whether it's 120VAC or 240VAC, is connected to pins 3 and 6 and the 120/240 primary power switch is set to 240 for your AC primary voltage level.

The main power AC Mains plug wiring is shown below. Note the dotted line to pin 1. Pin 1, as seen in the main schematic AC wiring, is ground. Therefore, for 220VAC, the mains ground is connected to pin 1 and the other two 220VAC wires are connected to pins 3 and 6.

Below is the main schematic primary AC mains wiring diagram I cut and pasted from the TS-820 main schematic. As you can see pin 1 is connected to ground (chassis). The S21 AC select switch wiring is also shown. You can trace the wiring from pins 1, 3, and 6 with S21 set to 220, to see how the AC mains wiring connects to the power transformer.

The "AC SELECT" switch is set to the "220" position for your (UK) AC primary voltage and the ground for your 220 AC wiring is connected to pins 1, and the 220 hot wires are connected to pins 3 and 6. The fuse is changed to 4A for 220VAC instead of 6A for 120VAC as stated on page 14 (see below the fuse rating segment I cut and pasted from 820 operator's manual):

If the AC main wiring is correct to pin 1 (ground) and pins 3 and 6 (AC mains) then that's correct!! The damage could have been the result of not switching the AC select to 220 and using the wrong fuse. I recently purchased a Drake R4A receiver that a previous owner put a "20 amp" fuse in the fuse holder where a 3/4 amp fuse should have been!!! I recent purchased a Heathkit IM-5225 FET volt/ohm/ma meter and the fuse holder contained a blown fuse with "foil" wrapped around it so the meter worked. Thank goodness nothing failed in the meter that could have required the fuse to blow!!!
73
Mike W5RKL
www.w5rkl.com

On 12/30/2014 10:39 AM, ian macfarlane irm177@...
[TS-520_820_530_830] wrote:
>
> I just purchased a ts830s. Can anyone please confirm the wiring of the
> 12 way power block on the mains lead, please note this is for 240v.
> Its currently damaged but its looks like its was wired on pins 1,3,6.
> with
>
> pin 1 to earth
> pin 3 neutral

> pin 6 live
>
> I'm confused about if it matters about live and neutral positions. Its
> not clear in the manual about which wire is live and if it matters
> about them being reversed.
>
> 73
>
> Ian Macfarlane
>
> M6TSO
>

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50714. Re: 820 blows fuse

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-30 18:41:10 UTC
From: wagstw46@...
Topic: 50710 Message: 50714

If you are getting 125 watts out into dummy load then you are not limiting the plate current to 200ma. The DC input power on this radio is 160 watts so max plate current should be close to 200ma.

Where and when in the loading procedure does it blow the fuse on 15 and 10 meters? Can you get the initial plate current dip in Tune Mode? Do you begin loading with the Plate Load capacitor plates fully meshed (full CCW position)?

Terry K9TW

50715. RE: [TS-520_820_530_830] Re: TS-530SP RF Gain

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-30 22:34:55 UTC
From: Thomas Gugler
Topic: 50591 Message: 50715

Terry,

Okay, I'll try and keep this short and coherent.

I picked this radio up about a month ago from a local Club. It has had this issue since I got it. You are of course correct, I measured mv and not uf. Checked it again and the lowest I can null to is 13 mv. RF gain control has no effect on null reading. For that matter, what I mean about the RF Gain control having no effect is that it does not affect the S meter or receive sensitivity in any way – it does nothing. I did again verify it does vary the RFG from approx. 0.75 volts fully CCW to 3.2 volts fully CW.

I put the rail back to 9 VDC. S meter sits at S 5, never moves regardless of incoming signal strength, moving RF Gain, or turning off AGC. VR1 and VR2 are fully CCW in this state, advancing either one will allow the meter to peg to the right.

I checked Q7 and it appears okay, DC voltages were close to schematic specs. It looks original to me – marking is K192AGR.

AGC buss is indeed 2.1 VDC, and this is I believe the culprit. I measured the AGC buss resistance to ground – 500 ohms! I triple checked this measurement since nowhere near 2.2 meg. My VTVM probably isn't pulling down the AGC at all. I pulled the connector at the IF board that has the AGC line – infinity at the plug – the 500 ohm reading is on the IF board.

So, any common failure points other than Q7 I should check on. You mentioned 3 caps, so that will be the first place I go next.

Regards

Tom

W7OA

From: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com]
Sent: Saturday, December 27, 2014 2:42 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: RE: [TS-520_820_530_830] Re: TS-530SP RF Gain

Tom

Since radio has been in your possession did it work correctly and then develop this problem or has it always acted this way?

I think you mean 13mv and not 13uv. About best I have ever seen is 2mv. Must have the RF gain backed all the way down so you are shutting down Q4. Dont want any RIF involved. Now can measure the Product Detector Carrier level at Drain of Q4. Drain is top right lead. Should be able to adjust TC-2 trimmer to get carrier nulled to close to 2mv and certainly less than 5mv. When you turn RF gain put full CCW to perform this step does the S meter peg

hard full scale? It should. If it does not you cannot do this step.

When you say RF gain doesnt do anything not sure what you mean by that? Do you mean it Does Not cause the S meter to move upscale from its standing S5 to full scale deflection with pot turned full CCW?

It is normal to have No S meter action with AGC in OFF. This is because AGC amp is back biased with -6vdc and detector diodes cant turn it on so it cannot pull down the AGC bus voltage and cause S meter to drive upscale.

Are you saying that the S meter sits at S4 or S5 and does not go up scale with any of the following:

1. Reduced RF gain pot with AGC on Slow or Fast or OFF positions

2. Turn on the Marker signal

3. Inject signal into SO-239 with RF sig gen

Does VR-2 S meter span adjust trimmer pot have any effect on reading?

I recall you measuring the RFG voltage at the IF board and able to vary voltage from 3.2vdc to approx 0.80vdc by reducing RF gain pot from full CW to full CCW position. If that is true RF gain pot is doing exactly what it is supposed to do.

I would set 9vdc rail back to 9vdc as it belongs. I am beginning to suspect something wrong with S meter FET Q7. I think I mentioned they normally are good or bad and dont get weak, but I wonder if someone has replaced the factory 2SK19GR with a sub. Cannot use just any old generic FET in this application. And have to be careful about lead transpositions with a sub. Sometimes on ebay can find NOS Toshiba original FETs. Other option is to buy a spare IF board and swap out.

Suggest you also measure the AGC bus resistance to chassis ground with rig downpowered. Should be approx 2.2 meg ohm.

I think we also applied 3vdc from batteries to power the AGC bus and I think you said the gain picked up as it should. You of course would have no AGC action and no S meter reading as batteries are low Z power source and the AGC amp cant pull them down. What this test proves is nothing wrong with any of the gain controlled mosfets.

Most common thing to pull down the AGC bus and cause a standing S-meter reading is a shorted Meter FET, but normally it pulls bus down very low and pegs the S meter. A standing S4 or S5 says there is a short but not a hard fault. Maybe a leaky AGC timing cap (3 on the IF board and 1 on the RF board) or leaky meter FET if there can be such a thing?

Sorry so disjointed but I am losing track of what we have done. Hard to troubleshoot this way.

Terry K9TW

50716. Re: 820 blows fuse

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-30 22:38:18 UTC
From: beeson.neil@...
Topic: 50710 Message: 50716

As soon as I start to load it tn tune mode the fuse blows, after dipping the plate. Tuning up on all other bands using same tune up procedure it tunes up fine, it's only on 10 and 15mtrs. For fifty bucks I'm not worried, I wiil find the cause 73
Neil
VK6NSB

50718. RE: [TS-520_820_530_830] Re: 820 blows fuse

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-31 00:10:56 UTC
From: Joe Wolfe
Topic: 50710 Message: 50718

Bob….

Sure tell you are not an expert in making makeshift fuses! J

I used to work at a radio station here in Reno (Then it was KGLR FM) that was put on the air using high quality (sic) Sparta Equipment. We announcers would routinely over drive the off-air monitor speakers, blowing the slo-blo's. After a while, the supply of slo-blos ran out and had not been replaced, so we did the next best thing, we took out the blown fuses and wrapped them in the metal foil paper from around our cigarette packs. Worked like a champ but drove the chief engineer nuts! We had enough problems as it was, due to the Sparta equipment. (Did I say high quality {sic]) He was worried that would lt all the smoke out of the transmitter…where the speaker monitor circuit was! LOL.

Copper pipe indeed. (Oh wait, no one smokes anymore, so I guess the copper pipe *is* the next best thing…sorry…wasn't thinking!)

Joe – W7RKN

From: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com]
Subject: Re: [TS-520_820_530_830] Re: 820 blows fuse

☐ If you replace the fuse with a piece of 1/4" copper tubing you will find the problem!

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"

50719. Re: [TS-520_820_530_830] Re: 820 blows fuse

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-31 00:34:17 UTC
From: K5MYJ
Topic: 50710 Message: 50719

In 1960 I worked for a company that grew silicon crystals. We had an oven that used 3 phase 220 at 600 amps per phase. It started blowing the main breakers. To save the crystal the Chief Engineer put a piece of 2X4 in the breaker panel and locked the door.

It worked and the crystal was finished. It was for the nose of an IR guided missile.

The following day when the electricians replaced the breaker there was a lot of swearing!

I learned the 1/4" copper tubing trick when a production supervisor put one in an ultrasonic cleaner that was blowing fuses. It caught fire!

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"
----- Original Message -----
From: Joe Wolfe w7rkn.7@... [TS-520_820_530_830]
To: TS-520_820_530_830@yahoogroups.com
Sent: Tuesday, December 30, 2014 4:10 PM
Subject: RE: [TS-520_820_530_830] Re: 820 blows fuse

Bob….

Sure tell you are not an expert in making makeshift fuses! J

I used to work at a radio station here in Reno (Then it was KGLR FM) that was put on the air using high quality (sic) Sparta Equipment. We announcers would routinely over drive the off-air monitor speakers, blowing the slo-blo’s. After a while, the supply of slo-blos ran out and had not been replaced, so we did the next best thing, we took out the blown fuses and wrapped them in the metal foil paper from around our cigarette packs. Worked like a champ but drove the chief engineer nuts! We had enough problems as it was, due to the Sparta equipment. (Did I say high quality {sic]) He was worried that would lt all the smoke out of the transmitter…where the speaker monitor circuit was! LOL.

Copper pipe indeed. (Oh wait, no one smokes anymore, so I guess the copper pipe *is* the next best thing…sorry…wasn’t thinking!)

Joe – W7RKN

From: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com]
Subject: Re: [TS-520_820_530_830] Re: 820 blows fuse

☐ If you replace the fuse with a piece of 1/4" copper tubing you will find the problem!

Bob Macklin
K5MYJ
Seattle, Wa.
"Real Radios Glow In The Dark"

50720. RE: [TS-520_820_530_830] Re: TS-530SP RF Gain

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-31 01:04:38 UTC
From: wagstw46@...
Topic: 50591 Message: 50720

Yes certainly should not have standing 500 ohms on the AGC bus.

Very unusual for one of the IF amp dual gate mosfets to go bad.

Besides the meter FET and the gain controlled devices you also have the AGC amp transistor Q6 hanging off the bus at all times. I am inclined to believe it is the culprit and not one of the AGC timing caps. Either it is bad or is biased on all the time. Take a look at Q6. Also make sure you have good -6vdc to it and not just at the Molex Conn 12.

Terry K9TW

50721. Help with TS 430s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-31 01:55:09 UTC
From: <w3fnz@...>
Topic: 50721 Message: 50721

Hello All,
I need help with a 430s. Is there anyone in the group familiar with this rig?
I couldn’t find a specific 430 yahoo group.

Thanks,
Walt, w3fnz

50722. Re: [TS-520_820_530_830] Help with TS 430s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-31 02:12:50 UTC
From: Bill Houghton
Topic: 50721 Message: 50722

Walt,

What problem do you have? I have worked on one a little bit.

73,

Bill, WA6NEQ

On Tue, 12/30/14, w3fnz@... [TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com>
wrote:

Subject: [TS-520_820_530_830] Help with TS 430s
To: TS-520_820_530_830@yahoogroups.com
Date: Tuesday, December 30, 2014, 5:55 PM

Hello All,
  I need help with a 430s. Is
there anyone in the group familiar with this rig?
  I couldn’t find a specific 430 yahoo group.

Thanks,
Walt, w3fnz

50723. RE: [TS-520_820_530_830] Re: 820 blows fuse

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-31 01:38:27 UTC
From: beeson.neil@...
Topic: 50710 Message: 50723

I agree with you Joe. Copper pipe, PLEEASSSE.
I want to fix the old girl NOT DESTROY it Fuses are there for a reason and I wont even use a slow blow fuse as the manual doesn't recommend it. 73
Neil
VK6NSB

50724. Re: [TS-520_820_530_830] 12 way power block wiring

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-31 02:07:56 UTC
From: ian macfarlane
Topic: 50711 Message: 50724

Thanks for reply. The info is really helpful. Can I just clarify whether or not it matters if live and neutral (hot wires) going to pin 3 and 6 are swapped around? The diagram isn't clear which way live and neutral are supposed to be wired and mine is currently wired with the fuse in the neutral line and the live going to main switch - which seems a bit odd to me! Many thanks and 73 Ian Macfarlane M6TSO

50725. Re: [TS-520_820_530_830] 12 way power block wiring

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-31 03:00:25 UTC
From: w5rkl@...
Topic: 50711 Message: 50725

Can I just clarify whether or not it matters if live and neutral (hot wires) going to pin 3 and 6 are swapped around?

No it doesn't matter.

Having said that, it's best to have AC Hot connected to pin 3 and in series with the fuse. If a problem occurs that results in the fuse blowing, with AC Hot on pin 3, the fuse will keep AC off the power transformer primary windings..

If you reverse the connections, neutral on pin 3 and AC hot on pin 6, if the fuse blows for what ever reason, AC will still be present on the power transformer primary winding up to the fuse but no farther.

73
Mike W5RKL
W5RKL http://www.w5rkl.com

W5RKL http://www.w5rkl.com Welcome to my Amateur Radio website. 73 Mike W5RKL email: w5rkl@yahoo.com

View on www.w5rkl.com http://www.w5rkl.com
Preview by Yahoo

50726. Re: [TS-520_820_530_830] Help with TS 430s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-31 19:12:35 UTC
From: <w3fnz@...>
Topic: 50721 Message: 50726

Bill,
Thanks for getting back to me.
It started out with low output. I resoldered the final board output base connections as well as the entire board.
Went through all the ground connections on the final, IF and RF boards as well as all the plug connections. Cleaned the carrier control and
checked all the transistors. I get good signal right up to the drivers.
With the mode in CW, Carrier up full, on 80M I get full output, 100W. On 40M, I get only 45W, and on 20M I only get 10W.
If I hold the send in transmit for 20 seconds, on 20M the output goes up to 95W from the initial 10. Same with 40M.
It’s like something is folding back the power initially, then after 20 sec it lets it go.
ALC voltage is OK at 2.3V. I do get an ALC reading on the meter
when in transmit.
Any ideas?

Walt, w3fnz

From: mailto:TS-520_820_530_830@yahoogroups.com
Sent: Tuesday, December 30, 2014 6:12 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830] Help with TS 430s

Walt,

What problem do you have? I have worked on one a little bit.

73,

Bill, WA6NEQ

On Tue, 12/30/14, w3fnz@... [TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com> wrote:

Subject: [TS-520_820_530_830] Help with TS 430s
To: TS-520_820_530_830@yahoogroups.com
Date: Tuesday, December 30, 2014, 5:55 PM

Hello All,
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there anyone in the group familiar with this rig?
I couldn’t find a specific 430 yahoo group.

Thanks,
Walt, w3fnz

50727. RE: [TS-520_820_530_830] Help with TS 430s

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-31 22:35:17 UTC
From: fpath fpath
Topic: 50721 Message: 50727

Walt,

Send me your email address, so we can take off forum. Is this a new thing that happened? When you say you soldered the final board, did you use wire for the through hole connections? Have you removed all the solder from the RF transistors and reflowed with new solder? Good tell tale sign is the solder around the rivets usually cracks and needs to be removed and resoldered with new. Also a common issue is the relays build up corrosion on the contacts which needs to be removed. There is a good youtube video of major faults and how to fix, basically show and tell.

73's

Dave

VK5PDL

To: TS-520_820_530_830@yahoogroups.com
From: TS-520_820_530_830@yahoogroups.com
Date: Wed, 31 Dec 2014 11:12:35 -0800
Subject: Re: [TS-520_820_530_830] Help with TS 430s

Bill,
Thanks for getting back to me.
It started out with low output. I resoldered the final board output base connections as well as the entire board.
Went through all the ground connections on the final, IF and RF boards as well as all the plug connections. Cleaned the carrier control and
checked all the transistors. I get good signal right up to the drivers.
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Any ideas?

Walt, w3fnz

From: mailto:TS-520_820_530_830@yahoogroups.com
Sent: Tuesday, December 30, 2014 6:12 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: Re: [TS-520_820_530_830] Help with TS 430s

Walt,

What problem do you have? I have worked on one a little bit.

73,

Bill, WA6NEQ

On Tue, 12/30/14, w3fnz@... [TS-520_820_530_830] <TS-520_820_530_830@yahoogroups.com> wrote:

Subject: [TS-520_820_530_830] Help with TS 430s
To: TS-520_820_530_830@yahoogroups.com
Date: Tuesday, December 30, 2014, 5:55 PM

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50728. RE: [TS-520_820_530_830] Re: TS-530SP RF Gain

Yahoo group: TS-520_820_530_830 (2014)
Date: 2014-12-31 18:35:11 UTC
From: Thomas Gugler
Topic: 50591 Message: 50728

Terry,

Saga continues. Looked at Q6, voltage on the base was off quite a bit from schematic spec. I did have -5.8 VDC bias to it. Pulled out Q6. Still measure 500 ohms on AGC rail. Did the old fashioned ohm meter check of Q6 and that test shows it's good – not definitive though so there may be an additional problem in that circuit. Since it's out I'll go ahead and replace it. I will need to source a suitable replacement since I don't have any 2SC1815's in the junk box.

So starting at the AGC connector I started lifting individual components from the buss line to find which circuit is dragging down the buss, (thank goodness for the Hakio 808). Everything good until Q2. When I lifted Q2, standing resistance went up from 500 ohms to about 200k ohms. So am assuming Q2 is bad. Will need to source a replacement for 3SK73 as well.

Since 200k is still too low, I guess I'll need to start the lifting process again to find what else is causing low standing resistance.

Regards

Tom

W7OA

From: TS-520_820_530_830@yahoogroups.com [mailto:TS-520_820_530_830@yahoogroups.com]
Sent: Tuesday, December 30, 2014 5:05 PM
To: TS-520_820_530_830@yahoogroups.com
Subject: RE: [TS-520_820_530_830] Re: TS-530SP RF Gain

Yes certainly should not have standing 500 ohms on the AGC bus.

Very unusual for one of the IF amp dual gate mosfets to go bad.

Besides the meter FET and the gain controlled devices you also have the AGC amp transistor Q6 hanging off the bus at all times. I am inclined to believe it is the culprit and not one of the AGC timing caps. Either it is bad or is biased on all the time. Take a look at Q6. Also make sure you have good -6vdc to it and not just at the Molex Conn 12.

Terry K9TW